The Dissertation Committee for Kristina Schoen Certifies that this is the approved version of the following Dissertation:

Gaining literacy XP: Uncovering semiotic resources in a digital game and exploring L2 learner gameplay as a multiliteracy practice

Committee:

Katherine Arens, Supervisor

_____

Cori Crane, Co-Supervisor

_____

Hans Boas

_____

Nicholas Henry

_____

Carl Blyth

_____

Julie Sykes

_____

Gaining literacy XP: Uncovering semiotic resources in a digital game and exploring L2 learner gameplay as a multiliteracy practice

by

Kristina Maren Schoen

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Abstract

Gaining literacy XP: Uncovering semiotic resources in a digital game and exploring L2 learner gameplay as a multiliteracy practice

Kristina Maren Schoen, Ph.D.

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Supervisors: Katherine Arens, Cori Crane

Digital games create interactive, multimodal spaces for second language (L2) learners to engage with contextualized language. Scholarship on digital games for L2 learning has previously focused on the affordances of games as language learning tools, i.e. for vocabulary acquisition and communication (deHaan, Reed, & Kuwada, 2010; Peterson, 2012), overlooking their value as rich, semiotic texts and gameplay as multiliteracy practice. This dissertation explores the textuality of the digital game *The Vanishing of Ethan Carter* (The Astronauts, 2014) and the literacy practices of L2 learners of German as they engage in dyadic pairs with the game. Using Systemic Functional Linguistics (Halliday, 1978; Halliday & Matthiessen, 2004) and social semiotics (Kress, 2000) as analytical frameworks, an initial text analysis of the game focuses on the organization of narrative information in an orbital generic structure (White, 1997). Given the non-sequential narrative organization, a second analysis identifies lexical cohesive ties (Halliday & Hasan, 1976) that connect the different linguistic texts comprising the game's

narrative chapters. Adopting the lens of intermodality (Painter & Martin, 2011), a final analysis explores how narrative texts and the multimodal environment interface.

The second half of this study analyzes L2 learners' engagement with *The Vanishing of Ethan Carter* in order to understand the gameplay process as multifaceted literacy practices. Based on video and audio recordings of gameplay sessions, one gameplay analysis tracks communication patterns of L2 dyads across the game's narrative chapters, focusing on utterance frequency in relation to puzzle-solving and text engagement. To contextualize the L2 dyad utterance patterns, a second analysis examines the substance of learners' interactions, pointing to variation in puzzle-solving strategies and level of relative textual engagement. A final gameplay analysis describes how learner groups utilize supplementary materials—transcripts of in-game texts and walkthrough videos—as game-external tools for mediating the gameplay process.

Results of the study contribute to the growing field of digital game-based language learning. In particular, the game and gameplay analyses frame L2 learners' experiences playing a digital game as acts of multiliteracy engagement. Additionally, the research design offers a potential expansion to current research practices in a relatively young field of inquiry.

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Introduction

THE CURRENT RESEARCH PROJECT

The research project I present in the following chapters is situated at the intersection of second language (L2) multiliteracies and digital games. Gee's (2007) learning principles and Apperley and Beavis' (2014) game literacy model theoretically ground the discussion within a larger multiliteracies framework (Cope & Kalantzis, 2000, 2015; New London Group, 1996; Paesani, Allen, & Dupuy, 2015), which promotes the diversification of linguistic expression through the inclusion of a variety of text types in pedagogical sequences. By relating games' *design grammars*[1] and the notion of learning by *design* from a multiliteracies perspective, the study attempts to show how digital games *design* players' experiences, while players simultaneously *design* their experience through gameplay.

This study begins by analyzing how the game establishes particular parameters within which the player must operate, but which only become evident and operative through the act of playing. This reciprocal and reflexive process, if tapped into, can have significant repercussions for exploring available texts that both implicitly (via *design* grammar) and explicitly (through player agency) promote the development of multiple

[1] *Design grammar* refers to elements of a game's design, including digital environments and game mechanics, that promote a certain gameplay style and experience.

literacies and knowledge processes. My research design and analysis rest on the assumption that, in order to understand what might be learned from a digital game and how that learning occurs, the research must know what specific types of pragmatic and/or strategic knowledge is built into the game, in conjunction with the knowledge and practices players bring to gameplay. By establishing a baseline understanding of how digital games construct meaning, as well as how L2 learners interact with those meanings during the gameplay process, we can begin to understand what kinds of teaching and learning may be taking place in such a multiliteracy environment. Just as a language instructor would not introduce learners to a new poem, short story, novel, or film without an in-depth understanding of its content and potential cultural and linguistic learning opportunities, so too is it necessary to fully comprehend how digital games are constructed and how players (with varying levels of game literacy) construe meaning from games before attempting to incorporate them into a classroom environment. Within the digital game-based language learning (DGBLL) paradigm, there is a need to understand digital games as *multimodal and interactive text types* that serve particular communities in ways that fixed texts do not.

In addition, establishing a baseline understanding of how learners engage with a digital game in their L2 is paramount to interpreting language learning outcomes—a similar pursuit to investigations of L2 reading (see e.g., Bernhardt, 1991). If digital games are to be used effectively for language learning purposes, it is necessary to understand game selection based on game difficulty, as well as learners' experience and literacy practices during the gameplay process. Such insights are vital for integrating digital games into language instruction at the appropriate language proficiency level, creating and

incorporating useful didacticized materials, and properly measuring learning outcomes. Establishing a basis for that evidence is central to the present project.

The popularity of digital games in today's society, the learning principles associated with digital gaming, and previous research on DGBLL support two key theses of this dissertation: it is critical to understand digital games as rich, semiotic multimodal ensembles (Serafini, 2014) and, by extension, it is important to investigate how embodied engagement with such texts contributes to holistic language learning and literacy development. Both tenets represent interdependent and reciprocal facets of this dissertation research.

For the first half of this study, I provide an example of how a digital game needs to be understood as a foreign language (FL) multimodal text by examining the German version of the game *The Vanishing of Ethan Carter* (The Astronauts, 2014) using Systemic Functional Linguistics (SFL). SFL views language as a socially-situated, functional resource for meaning-making (Halliday & Matthiessen, 2004). As such, SFL attempts to account for the grammatical and paradigmatic nature of language, as well as the social context in which communication occurs. To that end, SFL posits that all linguistic acts are comprised of three metafunctions: the ideational, conveying experience; the interpersonal, addressing social aspects such as power relations between interlocutors; and the textual, focusing on the linguistic means by which language engenders discourse. With an emphasis on semiotics and the construal of meaning, this functional approach to communication has in recent years been adopted as a foundation for the exploration of multimodality (see Chapter 2).

For the purposes of the game analysis, SFL provides a framework for dissecting multiple levels of semiotic resources in the game—from the organization of information, to lexical items, to multimodal elements. As I will discuss in more detail, digital games, like language more generally, are composed of multiple systems of meaning (e.g., language, visuals, sounds). Each system can be analyzed discretely in order to uncover what kinds of meanings are contributed to the text. However, more importantly, each system can be analyzed as it relates to the others, creating a highly complex, semiotic and multimodal text. The narrative structure in *The Vanishing of Ethan Carter* is non-linear and non-sequential. In addition, player agency affects when (if at all) players experience certain sections of the game. The primary focus of the SFL analysis is to determine how the game manages to create a cohesive narrative by examining micro- and macro-levels of linguistic and multimodal meanings.

GUIDING RESEARCH QUESTIONS

The first analysis explores the game's genres and the game as genre. The player encounters numerous texts throughout the game, each of which represents a different genre, which in turn contributes to the larger genre structure of the game (Aarseth, 2012; Martin & Rose, 2008). In addition, I determine how the repetition of certain vocabulary items and themes link different sections of the game together in an analysis of the game's lexical cohesion (Harman, 2013). Digital games rely on a combination of semiotic resources, including linguistic, visual, and auditory resources among others. As such, an additional multimodal analysis illustrates how multimodal semiotic resources create strong ties

between the linguistic and visual environments (Painter & Martin, 2011; Thomas, 2014). The research questions guiding the game analysis are as follows:

1. How does *The Vanishing of Ethan Carter* structure information, both mechanically and narratively, from a genre standpoint?
2. How is cohesion constructed and maintained lexically between the game's chapter texts, as well as between chapters?
3. How does intermodal complementarity facilitate intra- and inter-chapter multimodal cohesion within the digital game?

The goal of the SFL analysis is to gain a more in-depth understanding of how the game as text presents meaning to the player-as-reader.

Results of the SFL analysis are then used to help interpret L2 learners' experiences in playing the game, an analysis that comprises the second half of the research study. Here, a qualitative analysis of how collegiate L2 learners of German engage with *The Vanishing of Ethan Carter* provides a more complete picture of the gameplay process. The research questions governing the learner study are:

1. What are the patterns of communication during narrative puzzles and how does communication facilitate puzzle solving and textual engagement?
2. How do the supplementary materials—transcripts and walkthrough videos—mediate learner dyads' gameplay experience as literacy practice?

CHAPTER OVERVIEW

To contextualize the present project, the first chapter explores the role of digital games in today's society and the learning principles that "good" digital games inevitably

represent (Gee, 2007). An overview of the multiliteracies framework serves to contextualize this research project as interested in more than the instrumental acquisition of vocabulary. Finally, the traditional, static notion of literacy is problematized and a theoretical framework that accommodates digital game literacy is argued in its place.

The primary focus of the emerging scholarship on DGBLL (see Chapter 2) has centered on games-as-tools. By offering perspectives on digital games-as-texts, the current study contributes new insights to the growing DGBLL field through an exploration of embodied story-playing. As already noted, Chapter 2 reviews the literature on DGBLL and multimodality. Chapter 3 provides a rich description of the methodologies for both the SFL analysis and the L2 learner study. Chapters 4 and 5 present the results of the SFL analysis and L2 learner study respectively. Finally, implications and limitations of the study are discussed in Chapter 6, where suggestions for future research and potential pedagogical designs are additionally provided. First, however, I turn to a more detailed rationale for and context of the research design and results that I present below.

Chapter 1

Digital Games as Multiliteracies: Rationale and Research Design Desiderata

At their most basic level, digital games are entertaining; at their best, they are thought-provoking and capable of challenging one's worldview. As multimodal ensembles (Serafini, 2014) that rely on visual, linguistic, audio, gestural, and spatial semiotic resources, digital games have elevated storytelling to a new level. A "good" digital game has an engaging narrative, a pleasing visual aesthetic, and most importantly is fun to play, ideally immersing the player in uncounted hours of digital enjoyment. At face value, digital games engender an idealistic environment in which L2 learning is not only possible, but also autonomously sought after (Chik, 2011). Indeed, multiple strands of second language acquisition (SLA) and literacy research converge at digital games as new-media text types (Cope & Kalantzis, 2000; Sykes, Oskoz, & Thorne, 2008; Unsworth, 2014) that feature highly contextualized and functional language (deHaan, 2005; Miller & Hegelheimer, 2006).

The new attention digital games have received in the SLA scholarship is attributable to their general rise in societal and cultural popularity. Over the past three

decades, the digital game industry has witnessed exponential growth. The Entertainment Software Association (2016) reports that 63% of U.S. households have at least one gamer who dedicates a minimum of three hours to gaming each week. In addition, the gaming industry sales for the 2017 fiscal year reached $36 billion, a $6 billion increase from 2016. The success of the digital game industry is evidenced by the widely-popular *Angry Birds* (Rovio Entertainment, 2009), which since its debut has been downloaded a staggering 300 million times and is played over 200 million minutes every day (Mazin, 2019). The commercial success of the game lies in its simplistic gameplay and the way in which it teaches players the game mechanics. When extrapolated, these qualities reflect sociocultural theories of learning and mirrors widely accepted approaches to L2 instruction, such as modeling desired behavior and scaffolding production.

To demonstrate, when beginning the game, a new player encounters a series of pictures—a group of birds gathered around an empty nest, concern and dismay indicated by question marks and pound signs hovering over their heads. The camera pans right to reveal a gang of green pigs, moustached and crowned, next to a frying pan with a collection of eggs to their left. This opening screen clarifies the narrative—evil pigs steal eggs from birds, who subsequently become angry and set out to seek revenge and rescue their kin.

As the introduction of the narrative fades, a new screen replaces the previous one showing blue skies and a flat, grassy plane. This background is cast into shadow with the appearance of a new frame in the middle of the screen. The picture shows a slingshot, a bird, and a pig. The bird hops into the slingshot and a finger is shown touching the red bird and by moving from right to left across the screen, effectively draws back the slingshot to

a ready position. When the finger disappears, the bird shoots forward towards the pig, hitting it and destroying it. This sequence can be seen in Image 1.

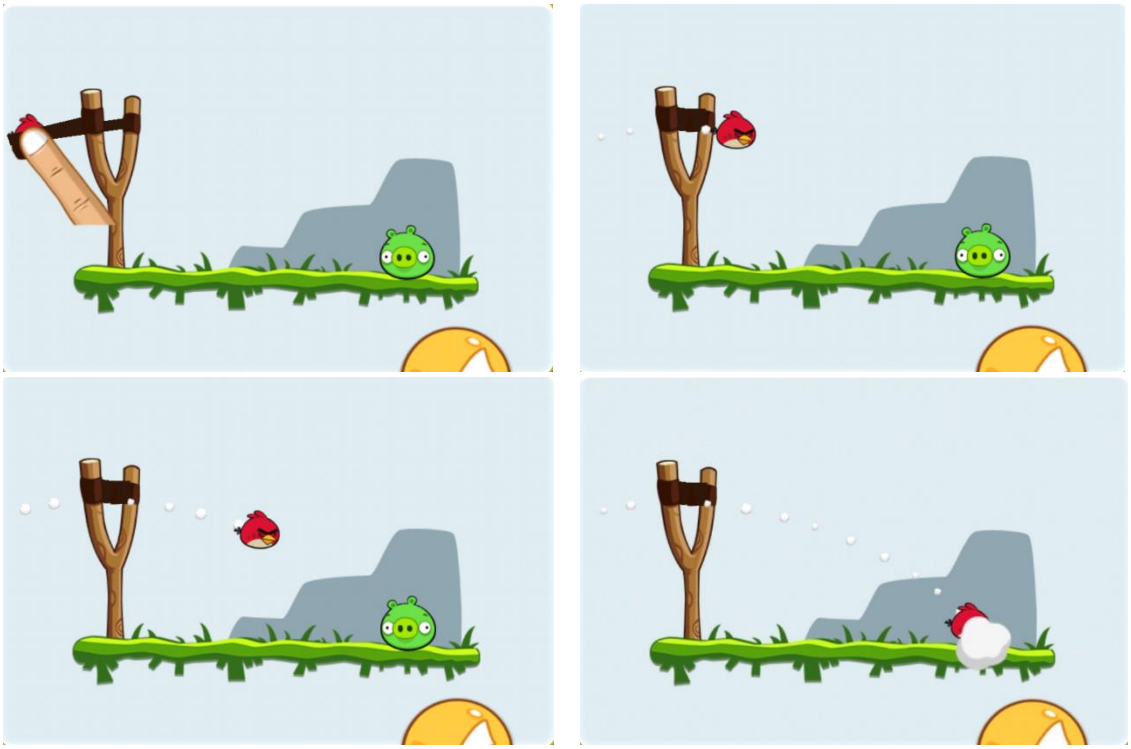

Image 1: *Angry Birds* tutorial.

In the gaming community, the opening moments of *Angry Birds* depicted above in Image 1 is known as a tutorial. The game introduces the player to the storyline and teaches the player the mechanics and controls, thereby providing the necessary information needed to successfully move forward. As the player's proficiency increases, the levels become more difficult, ensuring that gameplay remains challenging and engaging. Harder levels are accompanied by new obstacles and new types of birds designed to play a specific role and accomplish tasks that the original red bird cannot. Every time a new bird is introduced,

the player goes through another tutorial that illustrates how that bird is different and ideally setting up the player to successfully advance the story. Indeed, these characteristics are representative of how "good" digital games embody important learning principles that have caught the attention of many SLA researchers. These learning principles are discussed further in the following section.

DIGITAL GAMES AS LEARNING ENVIRONMENTS

As demonstrated by the *Angry Birds* example, digital games are purposefully designed to teach the gamer how to play, to create an immersive experience, and to continuously challenge the gamer in a variety of ways. It is the careful combination of these elements that contributes to digital games' entertainment value, thereby engaging gamers for long periods of time. Consequently, these design features correlate with learning principles that reflect good language learning practices. In this section, I review the *game design-learning principle* relation, which serves as a basis for the current research project.

Modern digital games with an identifiable narrative are tasked with building a coherent and believable world in which the player operates, and which socially situates players' experiences. Such a context resonates with the construct of *communities of practice* (Lave & Wenger, 1991). Within any given community of practice, more experienced participants interact with the less experienced, thereby creating opportunities for the less experienced members to learn from and become socialized into the group. In digital gaming communities, for example, more experienced gamers might share tips with less experienced ones and use a certain set of vocabulary associated with the game, providing the necessary resources for less experienced gamers to become acting members

of the community.[1] The context in which communities of practice are formed are called *semiotic domains* (Gee, 2007). Becoming versed in a semiotic domain is a highly active process during which the player learns to experience the world in different ways, joins new social groups, and identifies the necessary resources for social learning and problem-solving.

Gee (2007) argues that digital games represent their own semiotic domains, in that each game has been purposefully designed to communicate certain meanings to the player. For example, players who are "fluent" in the semiotic domain of first-person shooters (FPSs) understand the goal of the game (e.g., find and eliminate the enemy) and anticipate what modalities to expect (e.g., few written texts, reliance on visual cues). The fluent FPS player reads the game's environment, knowing that if there is a red canister or barrel, it will likely explode when shot. In other words, the player must develop a functional level of game literacy regarding the domain in question in order to successfully interact with—and eventually complete—the digital game.

Within any given digital game semiotic domain, the player takes on a role and becomes an agent, initiating and perpetuating the game's narrative. The role of the player is often embodied in an avatar, a digital representation of the physical player. Players' avatars allow them to experience situated learning during gameplay (Gee, 2007). Through an avatar, the player explores the surrounding world, makes and tests hypotheses, and employs various sources of knowledge—a process that Gee terms the "Probe, Hypothesize, Reprobe, Rethink Cycle" (p. 87).

[1] Gee (2007) proposes the term *affinity group*, which corresponds to the more widely used term of community of practice.

To illustrate: in the game *Portal 2* (Valve Corporation, 2011) the player is presented with physics-based puzzles in which they must try to get from Point A to Point B by using a portal gun. The gun allows the player to shoot two different portals (one orange and one blue) that create a passageway between themselves (see Image 2). As the game progresses, the path from the level's entry to its exit becomes increasingly difficult and new obstacles and challenges are introduced, requiring the player to adapt and learn. In this way, players can only get so far by "running and gunning." Instead, they must consider their surroundings, hypothesize about the effects their actions will have on the environment in which they are in, test those hypotheses, and adjust their gameplay accordingly. In other words, "good games" force players into this cycle of complexity and adaptation if they wish to be successful, thus situating their learning in the game world.

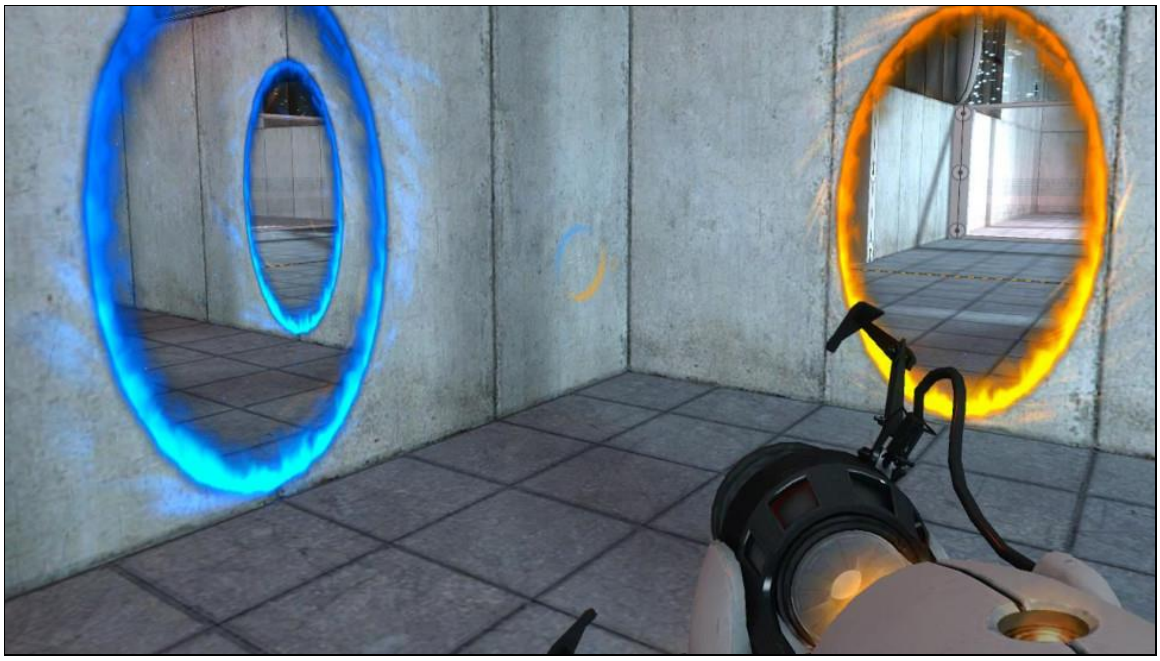

Image 2: Portals create doorway with the portal gun.

Gee's "Probe, Hypothesize, Reprobe, Rethink Cycle" not only provides a theoretical description of the gameplay process, it also responds to what is generally known as a digital game's *design grammar*. In other words, the game is specifically designed by its creators (i.e., authors) to facilitate desired player behavior. Using the above example, at the beginning of *Portal 2*, the player awakens after a scientifically-induced sleep and discovers that the game is set in a futuristic world as a friendly, spherical robot named Wheatley enters the room. Wheatley tells the player (or the player's avatar, Chelle) that she has been asleep for a very long time and advises her to take it easy. To ensure that her body is functioning correctly, Wheatley asks Chelle (the player) to perform several diagnostic tests (e.g., look up, look down, move, jump), which provides the scaffolding and situated practice that the player needs to understand the game's most basic controls, here in a "tutorial" that actually enhances the plot. However, digital games also strongly discourage routinized behavior through a gradual progression in the game's difficulty, forcing the player to adapt or lose, while also providing players with a safe environment for failure to occur. When players do fail (e.g., to beat a boss, solve a puzzle, etc.), they can restart and try again until they are successful. In this way, the player has an unlimited number of attempts to achieve a difficult task with low-stakes consequences creating a learning-to-learn environment.

Gee's (2007) principles—based on concepts of learning and literacy—describe a kind of literacy that does not adhere to the traditional definitions of reading and writing. Rather, they reflect descriptions of how learners interact with immersive language environments considered ideal for language acquisition, but often impossible to implement in a classroom setting or even abroad. However, digital games create a context in which

L2 learners navigate multilingual, multimodal, and multimedia environments, which is the cornerstone of a multiliteracies framework (Byrnes & Sprang, 2004; Cope & Kalantzis, 2000; Kern, 2000).

MULTILITERACIES

The existence of digital games and the way they construct both an entertainment and a learning environment has the potential to establish a new vision of what literacy is, and how it can be conceived vis-à-vis inherited models. Traditionally, literacy has been defined as one's ability to read and write. This simplified notion, widespread in the popular mind, becomes overtly problematic in a time when reading a canonical novel is interspersed with writing a Facebook post, watching a commercial or political ad, playing a game online with friends, interpreting and responding to a text message laced with emojis, or even browsing a twitter thread. Each of these literacy acts entails different levels of interpretation and transformation that require one to draw on knowledge of the immediate context and semiotic vocabularies, as well as the existent social and cultural norms.

Such changes in patterns of communication necessitate a reorientation to how research defines texts and "appropriate" or "literate" forms of communication. Specifically, we must address issues such as multimodal textuality, the range of genres and styles of texts incorporated in classroom; the role of diverse texts in the wider sociocultural context; and perhaps most importantly how language users relate to and dialogue with texts. Indeed, Kern (2000) remarks that the difference between traditional pedagogical approaches to literacy and the new era is a shift from "'what texts mean' in an absolute

sense, to what people mean *by texts*, and what texts mean *to people* who belong to different discourse communities…" (p. 2, emphasis in original).

In short, the goal of achieving literacy is demarcated by more than the mere ability to read and write the language instrumentally: a literate person has to achieve the ability to *design* meaning at the intersection of a plurality of contexts and cultures (Cope & Kalantzis, 2000, 2015; Kern, 2000, 2003; Patrikis, 2003). Acknowledging this thesis statement is the core of the multiliteracies framework, the epicenter of which is the New London Group's (1996) theoretical position piece that calls on practitioners to reconsider the role of literacy in formal education.[2] The authors argue that traditional literacy education favors a single, national form of a language, rather than addressing the existent linguistic diversity bred by various social, cultural, and technological factors, an issue that remains at the heart of both L1 and L2 literacy development. To address the deficit, the New London authors suggest a "pedagogy of multiliteracies" that promotes a pluralistic view of language learning and education more broadly by exposing learners to a wide variety of text types, genres, and registers; thereby nurturing a tolerance for different communication styles. They write:

> Local diversity and global connectedness mean not only that there can be no standard; they also mean that the most important skill students need to learn is to negotiate regional, ethnic, or class-based dialects; variations in register that occur according to social context; hybrid cross-cultural discourses; the code switching often to be found within a text among different languages, dialects, or registers; different visual and iconic meanings; and variations in the gestural relationships among people, language, and material object. (p. 69)

[2] The New London Group is comprised of a group of international educators—Courtney Cazden, Bill Cope, Norman Fairclough, James (Jim) Gee, Mary Kalantzis, Gunther Kress, Allan Luke, Carmen Luke, Sarah Michaels, Martin Nakata. The group initially met in New London, NH to propose a reorientation to pedagogy that reimagines literacy (especially changing academic environments) through the lens of globalization. For further reading, see Cope and Kalantzis (2000, 2015) and New London Group (1996).

Clearly, the model of learning that fosters literacy in such varied tasks requires much more attention to situated learning—to offer new designs for the learning process, which digital environments greatly enhance.

To facilitate the goals laid out by the New London Group on a conceptual level, it is important to understand the notion of *Design* as central to the multiliteracies approach. *Design* refers to conscious decision-making about paradigmatic factors in the act of communicating (Cope & Kalantzis, 2000, 2015; New London Group, 1996). It problematizes the agentless orientation to meaning-making inherent to traditional, formalized education, in which sentences and meanings are judged according to more or less abstract norms, rather than according to use, thereby acknowledging that multiple norms for judging success in communication are at play. In short, the multiliteracies approach to learning, specifically regarding *Design*, engenders contextualized situational learning, much like the digital game environments outlined above, treating learners as active, designers and re-designers of meaning, rather than as regurgitators of transferred factual information. The pragmatic dimensions of the communication settings in the above quote (i.e., variations in register, hybrid cross-cultural discourses, etc.) refer to carefully designed and contextualized acts of communication with which learners engage and which learners are expected to design themselves as members of a literate society.

The primary goal of didactic pedagogies is to impart *new* information to novice learners. The counterpart to didactic pedagogies that inheres to *Design* thinking, "authentic pedagogy," takes an implicit orientation to learning as a result of experiencing the "real world." At its core, authentic pedagogy requires learners to incorporate new information into their existing knowledge paradigm. Conversely, carefully *designed* multiliteracies

instruction represents a mixed method of reflexive pedagogy, which draws on both didactic and authentic strategies for a balanced approach and which stresses pragmatics and experimentation rather than correctness.

The activity types that support a multiliteracies approach can be classified into four categories of *Knowledge Processes*. The original pedagogic strategies endorsed in the multiliteracies framework—situated practice, overt instruction, critical framing, and transformed practice—have since been rebranded and expanded upon (Cope & Kalantzis, 2000). The *experiencing* knowledge process (situated practice) refers to the notion that human experiences, including communication and learning do not occur in a vacuum, but rather in a highly contextualized, situated environment. The known and the new are in constant dialogue with one's real-world knowledge. The *conceptualizing* knowledge process (overt instruction) relies on the principle that literate language users not only be able to speak the language of a particular discipline, but also to be able to talk about how the discipline is constructed through categorization and theorizing by "making the tacit explicit and generalizing from the particular" (Cope & Kalantzis, 2015, p. 20). Conceptualizing supports the development of a metalanguage that allows language users to not only design meaning but talk about the design itself. The *analyzing* knowledge process (critical framing) requires learners to critically engage with different functions and to acknowledge the subjective nature of communication. Finally, the *applying* knowledge process (transformed practice) prompts learners to apply their knowledge to different contexts and situations than those in which they acquired the knowledge.

The New London Group's (1996) contribution was in many ways complementary to contemporary discussions of collegiate foreign language (FL) teaching and learning,

which had undergone a paradigmatic shift from audio-lingual methods to communicative language teaching (CLT) since the 1980s (Canale & Swain, 1980). The primacy of oral communication favored in CLT, in tandem with the deeply entrenched bifurcated FL curricular sequence in the U.S. collegiate context has since been problematized, and researchers and pedagogues have argued for a reorientation to meaning and literacy (Barrette, Paesani, & Vinall, 2010; Bernhardt, 1991; Byrnes, 2006; Byrnes & Kord, 2001; Kern, 2000, 2003; Paesani & Allen, 2012; Patrikis, 2003; Swaffar, Arens, & Byrnes, 1991). Despite FL curricular designers' acknowledgment of multiliteracies presenting itself as a potential solution to bridge the language-content divide and facilitate true integration, few collegiate programs have actually committed to the implementation of a multiliteracies curricular framework. Even for programs that integrate more texts into lower-division language courses, texts tend to be short and simplified compared to the literary texts in upper-division (Maxim, 2006; Maxim, Höyng, Lancaster, Schaumann, & Aue, 2013).[3]

The strengths of the L2 multiliteracies movement is the acknowledgement that learners bring their L1 literacy and other knowledge domains with them to the learning process. The focus on genre when engaging with a variety of text types acts as a heuristic tool in the form of background knowledge, shown to support comprehension (Hauptman, 2000; Melendez & Pritchard, 1985; Swaffar & Arens, 2005). A multiliteracies approach allows for carefully articulated and goal-oriented textual engagement (Knutson, 1997) and encourages engagement with a variety of text types (Blyth, 2003; Kaiser, 2011). In addition, organizing curricula around genre generates opportunities for implementing task-

[3] For an example of curricular redesign, see the Georgetown University German Department, which underwent significant restructuring to achieve a carefully articulated, institution-specific multiliteracies curriculum.

based writing assignments, which assess learners' language and cultural knowledge acquisition (Arens & Swaffar, 2000; Byrnes, Crane, Maxim, & Sprang, 2006; Byrnes & Sprang, 2004; Paesani, 2006). In short, a multiliteracies approach opens the door to deeper sociocultural and linguistic engagement that is rooted in meaning by expanding on the notion of text and recognizing linguistic diversity as a product of an interconnected, globalized society.

Despite the benefits of a multiliteracies approach to L2 acquisition as represented in these examples, however, the scholarship in FL learning is still limited by the privilege given to text as a static object, or to the reader and the outcomes of their textual engagement. Kern (2000) draws attention to this issue:

> The 'text-centric', 'cultural', and 'cognitive skills' views of literacy share a number of limitations in the context of second and foreign language education. First, they reify literacy as an end product of instruction (i.e. a generic measurable outcome in terms of knowledge or skills) instead of as a variable set of processes contingent on textual, cognitive, and social factors. (p. 3)

The text-centric orientation to literacy treats L2 learners' literacy development as achieved by the mere incorporation of authentic texts into the program. If not carefully addressed, this becomes a highly problematic issues, because it neglects to acknowledge learners as an essential component of the literacy equation and fails to treat literacy as a dynamic process.

Rather than treating literacy as an end product of textual engagement, some research has begun to explore the concept of literacy as a multifaceted and dynamic process in which a reader interfaces with a text in a variety of ways. For example, Leander and Boldt (2013) studied the literacy practices of Lee, a 10-year-old boy, as he read manga, Japanese-style comic books or graphic novels, and found that Lee not only read the book

from cover-to-cover, but also cycled through various activities related to the content of the story. Lee's location during reading affected the ancillary activities in which he engaged, including dressing up as a character from the book, acting out a fight scene, and watching a TV show based on the book. In other words, Lee's behavior during the reading process went beyond the words and pictures on the book's pages and involved embodied engagement with the story. Leander and Boldt's observations of Lee's literacy practices reveal that the reader shapes the course of how the text unfolds moment-by-moment.

For digital games, the dynamic view of literacy and the influence of the player-as-reader on the gameplay experience shares many similarities with Lee's practices (i.e., tactile, switching between tasks, interpreting multimodal semiotic resources, and both digital and analog spatial factors). However, digital games are unique from more traditional text types, particularly in regard to player agency, and therefore require a different approach to understanding literacy, particularly because they are *designed* texts that create multiple paths to problem-solving and accessing the "next level."

Although digital game literacy has not received much attention in the scholarly literature, Apperley and Beavis (2014) offer a model for critical game literacy that identifies games-as-action and games-as-texts as complementary and essential factors in understanding how digital games are both dynamic and stable. The model addresses game elements as a textual environment and the effect players' interactions with the environment have on literacy practices.

Games-as-Action

The games-as-action portion of this model addresses the characteristics of digital games that set them apart from other text types, such as novels and films, while using

terminology that accommodates all these text types. To be considered a critically literate gamer, players must successfully navigate the three interrelated factors of the games-as-action layer: *actions, designs,* and *situations.* Digital games require the player to act and react in contextually-motivated situations. However, the way the game presents problems to be solved or enemies to be defeated (its design and the situation) represents, in itself, a kind of action on the part of the game's software. The reciprocal process of the game's software facilitating gameplay, the player's reaction to the situation, and the game's subsequent repositioning of the gameplay based on the player's actions is what sets digital games apart from other texts.

Most scholars agree that digital games are carefully-designed multimodal ensembles that regularly offer players creative license over their characters and their environment, thereby facilitating a set of situated choices. The level of design depends on the game in question. Some digital games dictate the character whose role the player assumes, but allow players to choose the character's clothing, hair style, or even tattoos (e.g., *Grand Theft Auto V* from Rockstar North, 2013). However, other digital games give the player the freedom to customize their character (their "avatar") to a greater degree, from the race (e.g., elf, human, etc.) to gender to the shape of the character's brow bone.

Players often invest hours into detailed character designs, making identities for themselves within the game world. The decisions a player makes when designing their avatar has the potential to affect how other characters interact with the player's avatar and can even change the course of the game's narrative (the pragmatics of that chosen identity). For example, choosing to play as one character over another, as in *Mass Effect 3* (BioWare, 2012), determines how the storyline develops and changes the ending. Similarly, if the

player chooses to play as an elf, rather than as a human as in *The Elder Scrolls: Skyrim* (Bethesda Game Studios, 2011), other non-player characters (controlled by the game's software) will react differently toward the player, displaying racial biases, both positive and negative.

The final factor in the games-as-action layer of the model is that of situation. The situation or context in which gameplay occurs has a direct effect on how the player interacts with the game and other players (the communication community). For example, a multiplayer game being played by several people who share one television screen in the comfort of their home represents a significantly different context from an online multiplayer game in which players work with or fight against each other from different locations around the world, or from a multiplayer game played asynchronously on mobile devices, such as *Words with Friends* (Zynga, 2009). The different multiplayer configurations determine the actions the players adopt to negotiate each situation.

Games-as-Text

The games-as-action layer in Apperley and Beavis' (2014) model represents the interplay between different players, software, and hardware, and indeed is what sets digital games apart from other text types. Although related, the games-as-action layer does not sufficiently exhaust the textual aspects of digital games. According to Apperley and Beavis' (2014) critical games literacy model, the games-as-text layer theorizes the textual meanings conveyed in digital games, classified according to four contributing domains of information: knowledge about games (i.e., how they work), "me" as game player (i.e., what the player can and needs to do), world around the game (i.e., ability to read the situation), and learning through games (i.e., ability to learn-to-learn about the prior three).

To be successful at digital games, players need a certain level of generalized knowledge about games, which allows them to interpret any particular game's mechanics correctly and take the appropriate corresponding action. Moreover, players must realize that digital games are not merely "remediated" forms of other texts, such as those found in film or literature, but rather have to learn to adapt their knowledge of information structure to a game-specific context. Similarly, digital games often play with intertextuality and "transmedia storytelling" in how the narrative unfolds. For instance, *The Matrix* franchise (The Wachowski Brothers, 1999) relies on the films, digital games, and graphic novels, offering different and complementary narrative experiences within the same fictional world. Each kind of text operates in the *Matrix* world, but with pragmatic rule differences appropriate to their media.

Similar to the games-as-action factor of situation, "me" as game player knowledge refers to the player's subjective point of view in relation to the game's content and the ways in which the game attempts to position the player through gameplay. The storyline of a game, for instance, might include issues of race or gender equality that the player must confront through interactions with other non-player characters. In addition, the player is a member of a particular culture or even several cultures within the game world, which affects their subject position. Finally, due to the social nature of digital games (also discussed under games-as-action), the context of "me" as game player differs depending on the context in which the game is played (i.e., single-player games, multiplayer games, and online massively multiplayer games encourage different iterations of the player).

Next, the world around the game factor refers to the physical setting in which gameplay occurs. Differences in player configurations and location affect player-player

and player-game interactions. For example, the difference in time zones during a multiplayer session will change the course of the conversation. If one player is engaging with the game in the evening, while the other is playing in the morning, each player will have different life experiences to recount to one another. Similarly, players in an educational setting may talk about their other classes or shared assignments, which would not be as likely to occur in other contexts.

The fourth and final factor for games-as-texts addresses learning through games, which have particular cultural, social, and political agendas built into them. To be successful, literate players of a given digital game must be able to identify, articulate, and react to how the game positions them vis-à-vis the game's agendas and commentary.

The goal of critical games literacy, then, is to develop students' awareness of a game's agenda and unpack the presentation of the game's content. In the end, players not only learn the game's content, but must also learn the game's algorithms and patterns in order to successfully complete the game. In addition, when the player is unable to navigate game-internal resources effectively, they may seek advice or tips from others who have already completed the game. The combination of being literate regarding games and gaming culture offers unique learning opportunities that stretch beyond the immediate digital context and marry socially-, culturally-, and digitally-situated textual engagement.

MOVING BEYOND FOUNDATIONS: SOME CONCLUSIONS

Apperley and Beavis' (2014) model for critical games literacy thus provides the field of DGBLL a much-needed foundational theoretical framework that acknowledges the complexity of playing a digital game as a socially-situated action within a learning

environment and couches the discussion within the broader notion of literacy. Apperley and Beavis (2014) model for critical games literacy is a significant first step to theorizing the literacy process around digital games, but as with any theory, it requires constant testing and re-theorizing as new information becomes available. The model offers a holistic perspective on digital games and attempts to account for the potential literacy practices entailed in playing them. With their model in place, the discussion now turns to the current research project. In the next chapter, I place the literacy principles of DGBLL just described into the context of extant scholarship on SLA.

Chapter 2

Literature Review:
DGBLL and Multimodality

The multiple literacies inherent in digital game texts necessitates the careful consideration of multiple factors before being able to effectively incorporate them into a collegiate foreign language (FL) curriculum. For instance, the level of difficulty of the game-as-text—both in terms of gameplay and language level—must be determined, the interplay of multimodal resources inspected, and the overall desired outcome of the task mapped out. When stripped down, these considerations reflect principles of multiliteracies (Cope & Kalantzis, 2000; Kern, 2000), multimodal textuality (Kress & van Leeuwen, 2006; Serafini, 2014), and DGBLL (Miller & Hegelheimer, 2006; Sykes, Reinhardt, Liskin-Gasparro, & Lacorte, 2012).

This chapter builds on the foundation laid out in the previous chapter, presenting major strands of scholarship on DGBLL and the primary constructs of multimodality. In the first section, DGBLL research serves to contextualize the current project. As a relatively new field within SLA, DGBLL has explored the affordances of digital games as

language learning tools. The second section explores multimodality as an extension of understanding meaning-making resources beyond language.

DIGITAL GAME-BASED LANGUAGE LEARNING: EXISTING RESEARCH

The most immediate context to this research project is that of digital games and how they can be leveraged for L2 acquisition. Although the field of DGBLL is young, it has received a great deal of attention in the scholarly literature on computer-assisted language learning (CALL)[1] and SLA more generally. Studies are traditionally organized around digital game types, such as virtual environments (VEs), massively multiplayer online role-playing games (MMORPGs), and synthetic immersive environments (SIEs). Understanding the difference between digital game types is essential to contextualizing and interpreting the literature on DGBLL.

Classifying Virtual Environments

The first major area of DGBLL interest is the way in which information is communicated to the player and their subsequent reactions to it, a relationship dependent on the genre of the game being played. Thorne, Black, and Sykes (2009) synthesize a taxonomy of web-based learning environments, such as wikis and blogs, and describe them as falling into three types of virtual environments: social virtualities, massively multiplayer online role-playing games, and synthetic immersive environments.

Social virtualities, which lack any discernable goal aside from staging a social environment, are often used in simulation games like *The Sims* (Maxis, 2000) or *Second Life* (Linden Lab, 2003). In both *The Sims* and *Second Life*, the player first creates an avatar,

[1] Within the DGBLL literature, there are multiple acronyms. Expanded forms are used for readability.

choosing between realistic representations of skin, hair, and eye color, as well as clothes and even personality type. Then, the player performs normal day-to-day tasks, such as eating, going to school or work, paying bills, cleaning, and socializing with other non-player characters or online players.

Massively multiplayer online role-playing games differ from social virtualities in one important respect: goal-directed collaboration. Massively multiplayer online role-playing games are often characterized by elements of fantasy and "real-time communication with other players" (Peterson, 2010, p. 230). The primary goals are to level-up or improve one's character and to collect valuable items such as armor through the completion of tasks known as quests. Another characteristic of massively multiplayer online role-playing games is the creation of a player's avatar. Unlike with social virtualities, the player chooses between various races that each have their own unique abilities. Then, as the name suggests, the player meets with other players online to form guilds, i.e., a large group of players with common interests, and raiding parties, i.e., a smaller group of players who go on quests together. In massively multiplayer online role-playing games, communication is a vital component to success. Often, raiding parties have a mixture of different types of characters, including warriors, magicians, and healers. Through interaction and teamwork, the raiding party can take down much stronger enemies.

A final virtual environment that Thorne et al. (2009) discuss is synthetic immersive environments, which "combine the player-generated cultures and contexts of social virtualities with the goal-directed, collaborative activity of MMOs [massively multiplayer online (games)]…" (p. 812). Such digital games look and feel like social virtualities but

are explicitly educational in nature. Typically, learners are given a task or quest that requires them to interact with non-player characters and other learners. During these interactions, learners receive certain pragmatic and corrective feedback. With an emphasis on collaboration, the quest provides learners with an opportunity to practice making requests and apologizing. Ultimately, synthetic immersive environments create internet-facilitated situations in which learners collaborate toward a common goal.

Nearly all the games selected for the studies discussed here fall into one of the three functional categories described above. While Thorne et al. (2009) offer a detailed synthesis of different digital game environments, two meta-categories of virtual environments exist that do not appear in their review: commercial off-the-shelf (COTS) games and independently-designed games. Lastly, it is important to keep in mind that minor variations of the virtual environments described above do exist. For example, *Final Fantasy VII* (Square, 1997) is a role-playing game, although not massively multiplayer.

DGBLL Research Designs

As previously stated, DGBLL research is typically organized around digital game types.[2] However, a different and more succinct taxonomic structure presents itself in the form of learner-focused and language-focused research. Both categories represent complementary sides of the same coin; and it should therefore be noted that separating learner from language is merely a convenient (and otherwise inorganic) division to make. First, however, a short discussion of the relevant theories that govern DGBLL research.

[2] Classifying DGBLL research around game types is productive for individual studies, where game selection is a vital aspect to the study. However, for an overview of what research is coming out of DGBLL, a functional dichotomy is more appropriate.

DGBLL and Theories of SLA

The most pervasive framework of DGBLL research is the design grammar of digital games (see Chapter 1). The way in which digital games teach players the mechanics of the game supports a sociocultural and situated practice reading of gameplay. Sociocultural theory (Vygotsky, 1980) suggests that learning is co-constructed between a more-proficient expert and a less-proficient novice and often mediated through the use of tools (Lantoff & Poehner, 2008). Through collaboration with others, a zone of proximal development (ZPD) is determined. The ZPD then indicates the potential of the novice to learn with the guidance (i.e., scaffolding) of the expert. In DGBLL, scaffolding occurs via the game mechanics and design grammar, often in the form of a contextualized tutorial, which teaches the player the rules and parameters of the game. By guiding the player's experience within a spatially-situated narrative (Jenkins, 2004), the semiotic landscape fosters the triggering of learners' schemata by drawing on their previous knowledge—whether it be of other gaming environments or real-world situations—thereby mediating the learning process.

Similar to sociocultural theory, situated learning operates under the premise that learning is a highly social process where knowledge is collaboratively constructed between more experienced and less experienced participants within the community of practice. Most importantly, participation in communities of practice allows learners to apply their learning in the environment in which it occurs (Lave & Wenger, 1991). Digital games, as inherently social activities, promote the building of communities of practice, often in online forums, in which participants become versed in a particular semiotic domain and pass on their knowledge to new members looking to gain access to the affinity group. In addition, as players are immersed in the game world, learning is spatially and semiotically situated.

Sociocultural theory and situated learning provide a theoretical underpinning that accounts for the potential affordances of digital games for language learning purposes. The way in which game's scaffold players' experience, effectively teaching them how to play via situated practice through a graduated hierarchy of difficulty, and the social orientation of digital games offers a foundation for interpreting how DGBLL occurs. As social theories of learning, both sociocultural theory and situated practice center around the learner and the immediate social environment. The next section explores the research on learner-specific factors of DGBLL, rather than on discrete learning outcomes, which follows.

Learner-Focused DGBLL Research

With digital games as a relatively new context for SLA, some research has attempted to ascertain learners' perspectives regarding their experience with digital gameplay, as well as to define the leaners' position within that context. A learner-focused orientation to DGBLL research tracks issues of learners' perceptions, self-efficacy, autonomy, identity, and willingness to communicate. The studies covered in this section rely primarily on self-reported data gathered through surveys, questionnaires, and interviews. Although caution should be taken when interpreting self-reported data, the results still provide meaningful insights into learners' experiences.

Understanding the way in which learners perceive the experience of playing digital games offers significant insights into learners' cognitive stance toward games as potential educational tools. Initial research suggests that learners' stance toward digital games in a learning environment to be generally positive, with games reported as engaging, fun and a good source of corrective feedback, as well as supporting the development of reading and listening abilities (Chen & Yang, 2011; Cornillie, Clarebout, & Desmet, 2012).

Conversely, the type of digital game used may have adverse affective consequences as reported by Neville, Shelton, and McInnis (2009) who found that the use of a text-based, non-visual digital game engendered substantial frustration among learners and negatively impacted their performance on assessment materials that measured vocabulary retention.

In considering the affective nature of DGBLL, self-efficacy, understood as "judgments about how well one can organize and execute courses of actions required to deal with prospective situations" (Bandura & Schunk, 1981, p. 587), is made relevant. In DGBLL contexts, self-efficacy appears in regard to the L2 and the technology type. If learners are able to accept digital games as a realistic path to language acquisition, then digital games offer a place to enhance linguistic, cultural, and pragmatic skills in an environment relatively free from the anxiety of face-to-face interactions. In other words, digital games provide a safe place to fail and try again by maintaining close social proximity without close physical proximity (Gee, 2007). By having learners complete typical communicative tasks (i.e., ordering at a restaurant) in a virtual environment, they practice the skills needed to perform the same task in a real-world scenario. This kind of practice has been shown to increase learners' own beliefs about their L2 abilities (Henderson, Huang, Grant, & Henderson, 2009).

In a similar vein, learners' self-efficacy beliefs about playing digital games affects their participation in virtual encounters during gameplay. For example, Reinders and Wattana (2011) found a positive correlation between a learner's previous gaming experience and the number of communicative interactions in which the learner engaged and prompted. Conversely, they report a negative trend between a learner who reported to have little gaming experience and her ability to initiate or engage in interactions with online

peers. It is possible that her low gaming literacy overburdened her cognitive load to allow her the mental space to communicate effectively.

Knowing that digital games are frequently played in people's free time, it is conceivable that digital games can promote autonomous learning. Benson (2013) provides the following definition of learner autonomy in language learning:

> Autonomy is complex, multidimensional, and variably manifested. Autonomy is manifested in the form of autonomous language learning which here refers to learning practices involving learners' control over aspects of their learning or, more broadly, learning that takes place outside the context of formal instruction. (p. 840)

Independent engagement with the L2 through digital games was the subject of Chik's (2011) investigation, which followed ten L2 learners of English and Japanese who reported playing digital games in their original languages for fun and educational purposes. Chik notes that because the participants exhibited autonomous learning tendencies prior to the study, it cannot be argued that they developed autonomous behavior as a result of the study. Rather, Chik uses case studies to demonstrate how learners of English and Japanese were motivated to play commercial off-the-shelf games in their original, rather than translated, forms, and thus took unprompted ownership of their learning.

Another factor that has received considerable attention in regards to digital gaming and learning is identity. Gee (2007) recognizes three identities that players adopt during gameplay: virtual, real, and projective, arguing that a player's projective identity (usually embodied by his/her avatar) is a mixture of the player's real identity and the developmental trajectory of his/her virtual self. Carr, Buckingham, Burn, and Schott (2006) take an entirely different approach to discussing identity by referencing avatar identity in relation to a game's narrative structure. When a player begins a game, they are filling a role in a

narrative text, filled with semiotic signs that are read and interpreted by the player. As one player recounted part of the plot of *Final Fantasy VII* (Square, 1997), she referred to the main character, Cloud, as "he," much as one would when summarizing a book or film. However, when the player was immersed into gameplay, the pronoun changed from "he" to "you." Carr et al. (2006) explain:

> On the one hand, Cloud is 'he', the term by which Oliver Twist or Robin Hood are most often named in their respective narratives. On the other hand, he is 'you', a name by which a central character in literature could never be known. (p. 75)

In other words, the player has a unique position with the narrative, being both "he" and "you." It is the player's agency to affect the narrative that affords them this position.

Relatedly, Lee and Hoadley (2006) found that in-game interactions differed depending on the avatar adopted by the participant. Using two social virtualities, *Second Life* and *There*, the authors elicited learners' reactions to gameplay using attractive/unattractive avatars or "gender-swapped" avatars (i.e., male players used female avatars and female players used male avatars). In an open-ended questionnaire, participants demonstrated an awareness of self and others. One participant, Jill, wrote, "[i]f you portray your character as abnormal then people won't talk to you…If you are ugly in a world where you can choose to be beautiful, it's bad for you" (n/a). The authors state:

> Identity formation is a powerful natural process that takes place wherever individuals participate in a community of practice—people learn to become members of communities, and in the process learn the practices of those communities. (n/a)

In other words, players engage in situated learning contexts in which they can experiment with different identities in an embodied and safe environment.

Such explorations include gender, which is notoriously characterized as uneven in a male-dominant industry. In many games where online, synchronic communication is available, either verbally or in text dialogues, sexual harassment is often a normalized behavior. One participant in Lee & Hoadley's (2006) study reported "When I played as a female character, I was hit on quite often" (n/a). Additionally, female character representation in digital games is historically problematic, comprising only 16% of popular digital games (Douglas, Dragiewicz, Manzano, & McMullin, 2002). Finally, gender is further unequally represented in the participants of DGBLL research. In the studies that report biographical information, 250 participants were male, while only 228 were female.

The final learner-focused category to be discussed is learners' willingness to communicate. One study examined students' interactions in a digital game called *Ragnorak Online* (Gravity, 2002). A total of 16 learners of English from a university in Thailand were tasked with getting a job at a computer store in the game world. The participants worked together in groups—one using oral communication and one using written communication—for three gaming sessions. The researchers report on the results from an analysis of both groups' transcripts. The results showed that regardless of the mode of communication, participants' number of turns increased over the experimental period (Reinders & Wattana, 2011). The groups did diverge, though, in the types of interactions that occurred, which will be discussed in the next section.

As stated earlier, learner-focused DGBLL research represents only part of the whole picture. Whereas learner-focused research is primarily interested in contextual variables of L2 acquisition through the support of digital games, language-focused research

investigates specific linguistic and communicative outcomes. In what follows, the scholarly literature on language-specific factors is presented.

Language-Focused DGBLL Research

Due to the presence of highly contextualized language that is often represented in written text, and then again both visually and aurally, much of the DGBLL research concentrates on vocabulary acquisition (deHaan, 2005; deHaan et al., 2010; Miller & Hegelheimer, 2006). A standard approach to investigating vocabulary acquisition through digital games is to have players engage in gameplay, followed by a recall test administered either directly after gameplay or on a delay. To succeed in playing a digital game, players must attend to multiple elements, from the visual field, to a narrator, to the actions of other players or non-player characters, all while still controlling their in-game actions via controller or keyboard. This can lead to cognitive overload for learners who play a version of the game in their FL or for players who are unfamiliar with playing digital games.

Despite a high cognitive load, evidence from immediate and delayed pre- and post-tests suggests that learners who are asked to recall vocabulary items from a digital game, regardless of whether they are playing or merely observing, are able to retain new lexical items long term (deHaan, 2005; deHaan et al., 2010). However, results of post-testing reveals that observers (as opposed to players) experience greater vocabulary retention, which suggests that the added responsibility of controlling the game may detract from players' vocabulary retention (deHaan et al., 2010). To counteract the additional mental strain of cognitive overload, Miller and Hegelheimer (2006)—and later Ranalli (2008) in a replication study—scaffolded learners' learning experience with the game *The Sims*

(Maxis, 2000) and found this pedagogical support[3] to improve learners' vocabulary acquisition.

Vocabulary acquisition has received the most attention since the inception of DGBLL; however, with the advent of the internet and the possibility of synchronous communication despite a lack of physical proximity, researchers have investigated the development of learners' communicative abilities through digital games. As Gee (2007) points out, a key learning principle of digital games is their inherent social nature. For decades, players have gathered—whether around a single console, or more recently online—to play digital games together. Since interaction is often an integral part of digital games, particularly those played in an online setting with other players, opportunities for negotiation of meaning are maximized in these environments, thus promoting L2 learners' noticing of particular linguistic features. This has led to a growing interest in the potential exchanges that surround digital games (Peterson, 2012; Thorne & Reinhardt, 2008; Zheng, Newgarden, & Young, 2012; Zheng et al., 2012). Interaction can occur between players, in a more traditional sense, or between a player and the game itself. In the latter case, players appropriate language from the game, react to non-player characters' dialogue, and even respond to non-player characters as though speaking as their avatar (Piirainen-Marsh & Tainio, 2009b, 2009a).

When gameplay takes place in an online setting, the types of interaction occur not only between the player and the game, but also between other players—either as competitors or as teammates. To succeed in massively multiplayer online games, such as *World of Warcraft* (Blizzard Entertainment, 2004) and *Ragnarok Online* (Gravity, 2002),

[3] Materials included vocabulary lists, descriptions of frequent grammatical features, and explanations of cultural features such as zodiac signs and carpooling (p. 316-317).

players must cooperate and collaborate, i.e., they must work to negotiate meaning with one another, relying on comprehension and confirmation checks and clarification requests to tackle complex tasks from separate physical locations (Reinders & Wattana, 2011; Zheng, Young, Wagner, & Brewer, 2009).[4] Perhaps not surprisingly, one study (Reinders & Wattana, 2011) found the medium of interaction to have an effect on what interactional resources players utilize. If the interaction is based on written communication, players tend to use a higher amount of self-corrections and questions; however, if the communication takes place orally, players often use a greater number of clarification requests and confirmation checks. These results indicate that oral communication in a gaming environment happens at a quicker pace and requires prompt in-game reactions.

Additionally, interactions between players serve to build and sustain the social relationships created through gameplay, which increases players' ability to work collaboratively, thus improving a group of players' success rate (Zheng et al., 2012). The maintenance of social relationships typically occurs through politeness in greetings, small talk, humor, and leave-taking, which also serve to create temporal space between turns. Non-native speakers then have time to think and react to more proficient speakers (Peterson, 2012).

Despite such promising theoretical awareness, however, the scholarship on DGBLL has by and large focused on discrete language outcomes, and to a lesser extent on learner perceptions and digital games as sites for developing literacy practices. While this trajectory has provided the field with a baseline for the potential benefits of digital games

[4] Long's (1996) interaction hypothesis posits that learners benefit from interacting with other L2 speakers through negotiating for meaning, particularly during linguistic breakdowns by performing comprehension and confirmation checks, as well as requests for clarification.

on L2 learning, they often do not address the extra-linguistic factors and meaning-making resources offered in the rich semiotic environment of digital games as multimodal ensembles. The next section explores topics related to multimodality as a prime factor in understanding digital games as learning environments.

SOCIAL SEMIOTICS AND SYSTEMIC FUNCTIONAL LINGUISTICS

Social semiotics refers to an approach to understanding human communication as a socially-and culturally-situated act by making and construing meaning through multiple semiotic avenues, including linguistic, visual, aural, gestural, and spatial resources. For the purposes of this research project, social semiotics functions as an umbrella term for both the linguistic and multimodal analyses to follow. Couched within social semiotics, SFL specifically addresses the linguistic resources for making and construing meaning. Originally proposed by Halliday (see Halliday, 1978; Halliday & Matthiessen, 2004), SFL is a functional approach that views language as a paradigmatic, semiotic resource for making meaning.

SFL posits that every act of language use is comprised of three *metafunctions*—ideational, interpersonal, and textual—that account for complementary and overlapping aspects of communication. The *ideational metafunction* addresses how language represents ideas about the world, and thereby the content of the communication. The *interpersonal metafunction* explains how social relations are enacted and maintained as language users construct texts, oral or written, for an audience. Finally, the *textual metafunction* governs the linguistic resources that allow for the creation of longer patterns of discourse. Within each metafunction, there are increasingly nuanced systems that allow for progressively

more fine-tuned analyses, and that address how the systems are interrelated and overlapping.

MULTIMODALITY

Perhaps the most salient feature of digital games is the interplay of meaning-making semiotic resources. Although purely text-based digital games exist, or that have no linguistic component, but rather rely on music to convey narrative and emotional ups and downs, such as *Journey* (Thatgamecompany, 2012), the majority of digital games rely on a combination of linguistic, visual, audio, gestural, spatial, and tactile resources to convey the narrative. From a multiliteracies perspective, the "multi" acknowledges the prevalence in today's society of multiple text types with multimodal features (Cope & Kalantzis, 2015). Unlike traditional approaches to literacy that favor the written word, the multiliteracies framework promotes the development of visual and aural literacy as well. The advent of the internet ushered in a new era of communication; no longer strictly text-based, interactions span space, time, and medium. The new orientation and ways in which people connect intra- and interculturally require a careful analysis of patterns of communication in ways that have begun to emerge in SLA research (Holden & Sykes, 2011; Sykes et al., 2008; Thorne & Reinhardt, 2008).

Still, that changing communicative landscape in which today's learners operate on a day-to-day basis has led to new explorations for L2 teaching and learning in a multiliteracies framework (Serafini, 2014; Unsworth, 2014). Part of the challenge of integrating multimodal ensembles is identifying their purpose and understanding how they make meaning within a sociocultural context (Kress & van Leeuwen, 2001). The following

section introduces principles central to multimodality as a contributing function of a multiliteracies framework.

Expanding on the SFL framework, the multimodal branch of social semiotics investigates the construal of meaning through the other modalities, and when appropriate, how those modalities interact with linguistic resources. Multimodal texts have their own systematic "grammar" or conventions, much the same as linguistics texts (Jewitt, Bezemer, & O'Halloran, 2016; Kress & van Leeuwen, 2006; Serafini, 2014). For instance, by analyzing a painting, one can identify how the world and ideas are encoded visually (*ideational*), how the painting attempts to position the viewer through devices such as framing (*interpersonal*), and how components like color and saturation create a "piece" of art (*textual / compositional*).

A Grammar of Multimodality

Historically, language has held a position of ideological power, as seen most evidently with the advent of the printing press that witnessed the proliferation of the written word. Despite the position of power written language has held—particularly in how access to literacy has acted as a social gatekeeper—humankind has maintained a rich relationship with images and sounds that dates back thousands of years. Jewitt et al. (2016) contend that two presuppositions have been determinant in the general lag in multimodal research: 1) Language is the most resourceful, important and widely used of all modes; and 2) Language can be studied in isolation (p. 14). Such beliefs close off discussions of other textual meanings and other forms of communication that dominate today's society. Serafini (2014) writes:

> Readers are confronted with multimodal ensembles that include visual images and a variety of graphic design elements in their everyday lives with greater frequency than texts that focus on written language. (p. 16).

The world and culture in which students live is filled with texts that employ more than just written language. However, many L2 classrooms do not represent the environment or sociocultural context in which learners are expected to operate as literate users and designers of language. It is therefore the responsibility of pedagogues and curriculum developers to create those environments so as to foster multiple literacies.

Integrating multimodal texts for literacy development first requires descriptive language regarding multimodal environments. Indeed, digital games rely heavily on visual and aural resources to convey important information to the player. To expand on language as a system for meaning-making, Kress and van Leeuwen (2006) propose a "grammar" or metalanguage for describing images. It is meant to cover a broad range of images across genres, from children's drawings to diagrams and charts in manuals to images in picture- and textbooks. The metalanguage or grammar often focuses on aspects such as an image's composition and where visual elements are located within a frame, how the picture positions the viewer vis-à-vis the image's subject, and the use of color. A key concept in their grammar concerns how narrative is conveyed visually. Images, such as paintings, although static and often presented to the viewer all at once, can convey movement and sequenced actions by leading the viewer's gaze through the use of lines (vectors), which

convey ideational and textual meaning. Through vectors, the viewer is able to interpret an assumed narrative unfolding.[5]

In addition to narrative vectors, the way in which images position the viewer to read in a particular way is significant to interpreting images. The authors ground their analysis in SFL's interpersonal metafunction. This typically refers to the relationships between participants in the text rather than between the author and reader, or speaker and listener. However, in its application to images, Kress and van Leeuwen include the image producer and viewer in their interpretation. When an image depicts a participant with a gaze, they interpret the gaze as a "demand" or an "offer," thereby positioning the viewer.

This concept has been discussed by other authors who acknowledge Kress and van Leeuwen's typology but find their vocabulary too strong, and prefer the terms "contact" and "observe" (Unsworth, 2014) instead. Kress and van Leeuwen expand on the interpersonal metafunction in images through framing, which encodes social distance between the who or what depicted in the image and the viewer. According to their framework, an image that shows the whole participant as if from a distance (also known as a "long" shot) positions the viewer to be more distant from that participant. In contrast, an image that depicts the participant from the shoulders up, or a close-up, thereby revealing their facial expressions, gives the viewer emotional access to the participant and creates social closeness. Finally, interpersonal meaning is conveyed through the point of view

[5] To provide an example, the authors describe a picture from an Australian textbook that depicts an encounter between British soldiers and the Aborigines. In the distance, to the right side are the Aborigines seated around a fire. The two British soldiers look to be walking towards the Aborigines and are located to the left and center of the image. The soldiers hold guns at waist-height and point in the direction of the Aborigines. Kress and van Leeuwen argue that the guns of the British soldiers represent narrative vectors, directed toward the Aborigines and that these vectors create a certain narrative progression to be interpreted by the viewer. In other words, although the image is static and frozen in time, it is possible for the viewer to "read" a narrative from the image.

regarding the participant with whom the viewer is meant to identify. A camera angle can connote social access or denial to the depicted participants through horizontal angles and power relations encoded in vertical angles.

In addition to narrative representation and viewer positionality, composition adds another layer of information for interpretation. Composition[6]—comprised of the systems of information value, salience, and framing (Figure 1)—is concerned with where visual elements are positioned within the frame. Information value addresses how participants and other constituent elements of an image are framed. Here the focus is on the left/right, top/bottom, and center/margin positioning of what is depicted, which are related to textual meanings of the system of Mode in SFL. The left/right orientation is comparable to the given/new structure of Theme/Rheme in linguistic texts and a product of the left-to-right reading practices of Western cultures.[7] The top/bottom orientation of images connote ideal/real meanings. In this case, the top half of the image represents a more ethereal view, whereas the bottom half is more grounded and down to earth. Finally, the center/margin information structure places a "greater emphasis on hierarchy, harmony and continuity" (p. 195).

The second textual system of composition is salience, which involves the greater or lesser degree to which constituent elements of an image stand out and attract attention. This is typically accomplished through a combination of size, color, focus, and placement

[6] Kress and van Leeuwen's system of Composition is an attempt to account for how images are "read," particularly in Western culture, from left to right and from top to bottom. The system provides a framework for analyzing the positioning of visual elements within a framing device as a way of interpreting visual semiotic resources. More applications of the model are needed across cultural texts to establish its validity.
[7] Theme / Rheme in SFL refers to how information is structured at the clause level. In English, the standard Theme / Rheme construction is subject / verb, where the subject is typically information that has already been provided in previous discourse and the Rheme is new.

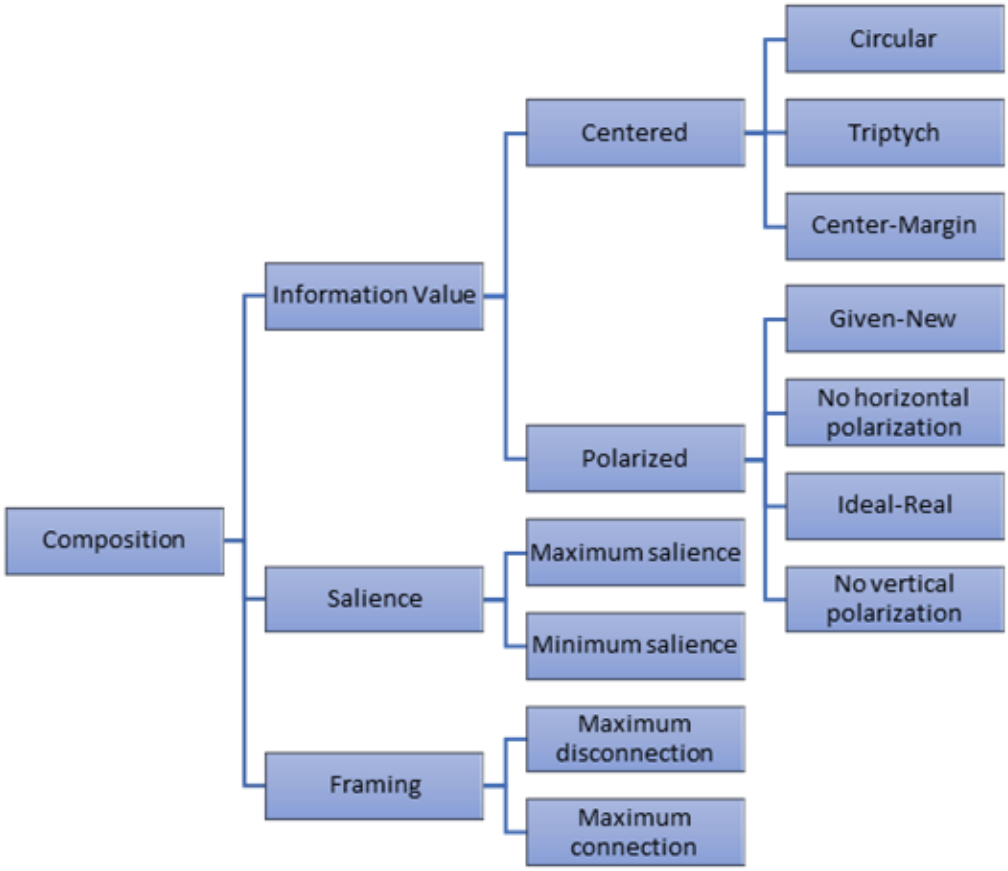

Figure 1. The system of composition (Kress & van Leeuwen, 2006).

within the frame. The authors also mention rhythmic salience here, an alteration between stressed and unstressed moments and the intervals at which they occur. As its name suggests, salience refers to the relative importance of particular visual (or aural) elements and how *noticeable* those semiotic resources are to the reader.

Framing—the third and final system of compositional meaning—differs from how framing functions on an interpersonal level in terms of the closeness or distance of the participant. Compositional framing is concerned with the level of connectedness between

elements within an image. Kress and van Leeuwen explain: "elements or groups of elements are either disconnected, marked off from each other, or connected, joined together […] elements of the composition may be strongly or weakly framed" (p. 203). Temporal framing is also possible and is represented by rhythm, which differentiates between elements that can be seen as a unit and those that are not.

Applying Multimodality

The grammar of multimodality developed by Kress and van Leeuwen (2006) has provided a metalanguage for the rich description and analysis of multimodal texts However, as a kind of by-product of a text-centric society, multimodal works tend to be subservient to the notion of "text," which connotes linguistic and often orthographic ties. As a countermeasure, Serafini (2014) adopts the word "ensemble" to reflect the multiplicity of meaning-making resources. Much like in a musical group in which different instruments and voices contribute individually and yet dialectically to the greater whole, multimodal resources can be identified as belonging to a bigger picture.

Multimodal ensembles can be deconstructed using a variety of methods, e.g., perceptual, structural, and ideological analytical perspectives (Serafini, 2014). The perceptual analytical perspective is used to create rich descriptions of visual elements. The structural analytical perspective draws on Halliday's visual metafunctions—ideational, interpersonal, and compositional—to illustrate potential meanings in the visual (Kress & van Leeuwen, 2006). The ideological analytical perspective corresponds to social, historical, and political contexts in which ensembles are published.

Of particular interest in many multimodal analyses is the interplay between different modalities, known as *intermodal complementarity* or *intermodality* (Painter &

Martin, 2011; Thomas, 2014). Modalities may contribute the same (*converging*) or different (*diverging*) meanings and to different effects. Painter and Martin (2011) write:

> Since bimodal texts instantiate meaning choices from two meaning systems [linguistic and visual], the question of how choices combine across modalities, and how they complement one another comes to the fore. (p. 132)

Because digital games typically rely on all modalities to facilitate gameplay and to convey the game's plot, determining how each system works together becomes highly relevant. To demonstrate, Thomas (2014) describes a multimodal reading of the children's book, *Fox.* The book follows a pair of friends, a magpie and a dog, on their adventures. Magpie, who lost her ability to fly in a forest fire, is insecure about physical limitations. At one point in the book, a fox enters the scene "like a flame." The way in which the author of *Fox* introduces the character suggests imagery of the fire that took Magpie's freedom of flight. Thomas describes the illustrations depicting Fox during his introduction as bright red on a subdued background, also reminiscent of flame. This reading highlights the relation between the linguistic and the visual texts, which reinforce the intermodal complementarity of the ensemble.

Conversely, when dealing with dynamic ensembles, a new level of analysis must be introduced. Particularly in film and digital games, the question of perspective and focalization is complicated by movement. Focalization, which encodes meaning potential through framing, camera angle, and edited point of view, is enacted on two levels: what the viewer sees and what the participant in the image or film can be interpreted as seeing or experiencing. The Focalization system allows one to unpack both types of meaning and can be seen in Figure 2.

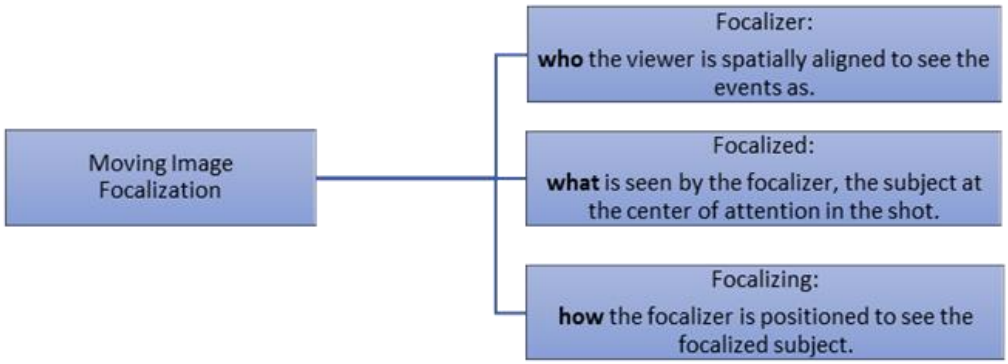

Figure 2. Focalization system network (O'Brien, 2014, p. 131).

The Focalization system has three concurrent levels of meaning present. The focalizer is the participant in the image or film whose perspective the viewer is meant to be aligned. Variations in the focalizer are accomplished through choices between positioning the viewer outside the subjectivity of the story world, the "along-with-character" option, and the "as-character" option. The "along-with-character" focalization gives the viewer access to the participant's viewpoint from alongside or from behind. The "as-character" focalization places the viewer "in the head" of the participant. O'Brien notes here that film uses "as-character" focalization only rarely to help balance the emotional waves, whereas digital games often use the "as-character" focalization in order to emerge the player in the emotions of the character as which they are playing. The first-person or "as-character" focalization can either be inscribed or inferred. With inscribed first-person focalization, the viewer often sees the participant's hands or feet, whereas inferred first-person focalization is achieved through the careful editing of different shots. Choices made at the level of focalized, or the "what" that is being seen, are used to create empathy between the viewer and the focalizer and affects the level of affiliation.

In addition to the focalization system, attitudinal meanings affect the viewer-text relationship and are therefore located within the larger interpersonal metafunction. The attitude system is enacted on three levels simultaneously in films. The first level is Contact, which refers to the perceived eye contact between the viewer and the participant in the film. The second level is Involvement, achieved through the horizontal angle of the camera. Involvement affects whether the viewer feels involved or detached from the participant. Lastly, the Power level refers to perceived power relations between the focalizer and the focalized through shifts in vertical camera angles.

Focalization is one meaning-making resource inherent in virtually all digital games, but only addresses one aspect of their meaning-making potential. Digital games' multimodal intersectionality is not only omnipresent, but also multidimensional. That is, meaning is not only encoded in the ensemble itself, but also enacted by the player as they engage in gameplay (Apperley & Beavis, 2014; Leander & Boldt, 2013).

MOVING FORWARD AND EXPANDING PARADIGMS

The DGBLL scholarship described in this chapter is notably focused on the affordances of digital games as language learning tools. Specifically, much of the research is interested in measurable language gains and contexts of online communication. Successful gameplay, however, requires a level of literacy that may affect the way the field interprets the results of studies that emphasize discrete L2 language abilities. To that end, it is important to reconsider how we approach digital games and their textuality, making an understanding of multimodal meaning-making resources essential. The current research project aims to address relevant literacy factors of L2 learners of German through a close

textual analysis of *The Vanishing of Ethan Carter* (The Astronauts, 2014) (Chapter 4) and a qualitative analysis of gameplay sessions (Chapter 5). In the following chapter, I describe the methodology for both sections of my research.

Chapter 3

Methods

The goal of the current study is to develop and present a new perspective on DGBLL by examining the (multi)literacy practices (Cope & Kalantzis, 2015; Leander & Boldt, 2013) of second language (L2) learners of German as they engage with the narrative-driven digital game *The Vanishing of Ethan Carter* (The Astronauts, 2014). Important to understanding and interpreting those literacy practices, this project additionally investigates the textuality of *The Vanishing of Ethan Carter,* which serves to contextualize L2 learners' experience in playing the game. The text analysis explores how narrative information is structured and how linguistic and multimodal semiotic resources create cohesion through intermodal complementarity (Painter & Martin, 2011; Thomas, 2014).

In this chapter, I present the methods employed for both parts of this study. I first describe the approach used to analyze different meaning-making resources found in the game, including genre, text-to-text lexical cohesion,[1] and text-to-multimodal environment cohesion. In the latter half of this chapter, I discuss the process by which the L2 learner-

[1] By text-to-text lexical cohesion, I am referring to the lexical cohesion between the different texts that comprise narrative chapters in the game. For example, one chapter includes a short story, an official letter, and a personal note.

generated data were gathered, organized, analyzed, and interpreted. First, however, I describe how I selected *The Vanishing of Ethan Carter* for this study.

GAME SELECTION

Selecting a game for use in a language-learning setting requires the consideration of multiple factors, making the decision a complicated one. Some digital games lend themselves better to language learning than others, with certain games suitable for vocabulary acquisition, others for developing pragmatic competence. For instance, massively multiplayer online role-playing games may be particularly good for practicing oral language and developing communicative competence, as the player is required to communicate with other players in the game world to successfully accomplish tasks. However, FPSs, which often prioritize action over communication, may not be appropriate for language learning. FPSs may be beneficial for improving game literacy (Apperley & Beavis, 2014; Gee, 2007), but may provide only limited opportunities for the player to interact with language (Chik, 2011). It is therefore essential that the game selected meet several criteria.

For the purposes of the study, it was important to find a game that could be played within a reasonable amount of time (i.e., under 15 hours) from beginning to end. This would allow the players to experience a full narrative arc, rather than a limited selection of a game. Such a time limit narrowed the field of possible games to primarily independently developed ("indie") genres, since commercial digital games typically have play-through times of 25 hours or more. Indie games are developed and produced without the financial backing of a designated game publisher, and typically include innovative mechanics and

methods of story-telling, providing rich narratives. With an emphasis on story-telling as opposed to action—as found in the role-playing games and FPSs, indie digital games not only offer considerably more language but their limited play-through time also ensures a greater concentration of language throughout the game.[2] In contrast, role-playing games with complex, intact narratives (e.g., *Skyrim*, Bethesda Game Studios, 2011), often set up gameplay in such a way that the player may not receive any linguistic input for hours.

Given the time restrictions and the desire for a rich narrative component to facilitate linguistic engagement, it was important to find a game in which language was not merely the means by which the narrative was communicated, but instead a tangible and interactive part of the mechanics. After testing several potential games for length, the role of language, and player agency, and level of player-game interaction, I selected *The Vanishing of Ethan Carter*, which incorporates language as an integral tool with which the player interacts to explore the game world and investigate narrative sequences. In addition, the game could be completed in five to 10 hours. As such, it was an ideal candidate for the purposes of the current research project. The following section describes the methods employed in conducting the close textual analysis of the game.

METHODS FOR GAME ANALYSIS

Playthroughs

To prepare *The Vanishing of Ethan Carter* for textual analysis, I performed three full playthroughs of the game, playing from beginning to end with different goals in mind.

[2] An additional consideration in selecting a game was the availability of German. *The Vanishing of Ethan Carter* had been translated for a German playership. However, the game had not been dubbed in German, meaning participants did not have access to audio linguistic input.

The first playthrough occurred prior to finalizing the game for the study and was focused on determining playability, particularly regarding game mechanics and length. As a gamer with previous experience, I measured the need for assistance and the lack of information on mechanics against my own skill. On several occasions, I became stuck and unable to move the plot forward, leading me to seek assistance in the form of walkthrough videos and online discussion boards. The difficulty I encountered during my first playthrough of the game did not discount it as a contender for the study, but ultimately led me to incorporate walkthrough videos and transcripts as supplementary materials for the analysis of learners' gameplay experience.

The second playthrough of the game was dedicated to locating when, where, and how linguistic input is presented to the player, in addition to further familiarization with the game world, plot, and mechanics in order to prepare for the third playthrough. During the third playthrough, using screen capture technology (XSplit), I recorded a "clean" run through the game. That is, I quickly and efficiently went chapter to chapter, recording the solutions to each puzzle (01:39:22). From the recording of the third and final playthrough I created full transcripts of the game's linguistic texts used in the linguistic analysis by transcribing the German subtitles and the German version of the short stories and artefacts. In addition, the video was used in the analysis of the game's multimodal semiotic resources.

Textual Analysis

The methodology employed in this study is that of SFL and social semiotics. SFL is a functional approach to language that views language as a social semiotic resource for construing meaning. SFL provides a lens for describing structural aspects of language (e.g.,

grammar) and their function(s) within social context. From an SFL perspective, the linguistic system is comprised of multiple strata of meaning-making potential—from the context in which communication occurs to the lexicogrammatical resources for making meaning (Halliday, 1978; Halliday & Matthiessen, 2004). My analysis of *The Vanishing of Ethan Carter* focuses on how textuality is encoded through the linguistic and multimodal systems, as well as how the narrative is structured around gameplay through an investigation of the game's genre structure, the presence of lexical cohesion, and the role of intermodal complementarity.

The initial playthroughs revealed a lack of sequentiality in how the game's different frames and texts appear to the player. The order in which players experiences semiotic events and receive significant narrative information is not pre-ordained by game design, but rather emerges as a product of gameplay. This was the catalyst for the genre analysis.

As opposed to classifying texts based on their thematic content, genre from an SFL perspective views texts as staged and goal-oriented (Martin, 1984; Martin & Rose, 2008). Within the SFL framework, genre represents the context of culture. Texts are not created in a cultural vacuum; rather, textual choices are influenced by the cultural norms attached to that text type. In other words, the way a text unfolds is a prototypical product of culture. The goal of the genre analysis was to establish the text types that exist in the game and how they are organized around gameplay. To begin, the linguistic texts were categorized by semiotic event; that is, whether the text belonged to a narrative puzzle or to a death puzzle, or whether the text was a stand-alone monologue. After classifying texts based on their function in gameplay (see Figure 3), the field of analysis was narrowed to those texts that were compulsory—the narrative puzzle texts. These texts also differed from the death

puzzle texts in that they are written, rather than appear in the form of dialogue. From there, each text was analyzed for its generic stages (i.e., *orientation, record of events, emotional reaction*), based on Martin and Rose's (2008) description, and subsequently assigned a story genre (i.e., anecdote, exemplum, narrative, recount, or observation).[3] In addition, each text is accompanied by a dialogue and an artefact, which included items such as newspaper articles, magazine covers, and personal notes. Following the assignment of story genres, the texts were analyzed for their structure around gameplay, with a broader view of how the linguistic information was organized despite the lack of linearity in the unfolding of the plot (compare White, 1997, who studied the generic organization of hard news articles).

Based on the genre analysis, particularly regarding the episodic and seemingly unconnected presentation of narrative-rich information, the second textual analysis focused on the lexical encoding of cohesion, both within and between narrative chapters. Lexical cohesion is a means by which textual continuity is established and maintained through thematically related lexical items (Eggins, 2012; Halliday & Hasan, 1976). In other words, lexical cohesion is a way of identifying how semantic resources combine to create the effect of a unified and whole text.[4] Focusing again on the texts in the compulsory chapters, which consisted of a short story, a dialogue, and an artefact, each semiotic episode was analyzed according to prominent themes. Once themes had been established for each chapter, related lexical items and phrases were identified to determine the lexical density of each topic, as well as detect cohesive strands between the otherwise disparate text types. Analysis of the

[3] For more information on story genres, see Martin (1984), Martin and Plum (1997), Martin and Rose (2008),and Rothery and Stenglin (1997).

[4] As an example, a text about a *dog* might also include lexical items relating to that animal: *pet,* a proper name like *Spot*, *paws, collar, leash, tail, etc.*

individual chapters was followed by an investigation of lexical cohesion between chapters, to determine narrative continuity across nonsequential and dissimilar semiotic episodes.

While the goal of the lexical cohesion analysis was to determine the semantic connections between texts intra- and inter-episodically, the semiotic resources made available to the player go beyond lexical items to include visual and auditory information. Indeed, the textuality of *The Vanishing of Ethan Carter* is encoded through a combination of multimodal semiotic resources, only one of which is linguistic. To develop an understanding of how the linguistic texts relate to the multimodal environment, the third analysis explored the presence of intermodal complementarity throughout gameplay. The goal of an intermodal complementarity analysis is to determine where semiotic resources converge or diverge across modalities (Painter & Martin, 2011; Thomas, 2014), as a means of establishing multimodal cohesion within each episode. The linguistic texts that were the focus of the genre and lexical cohesion analyses described above exist in the game world as a greater part of the multimodal ensemble (Serafini, 2014) and are embedded in visual and audio sequences. It was therefore necessary to investigate the role of multimodal semiotic resources in the conveyance of narrative information. The intermodality analysis explored the resemiotization[5] of linguistic information (Iedema, 2001), by focusing on how lexical items are construed visually in the game's compulsory chapters. For example, if a text mentioned traps and the player encountered traps in the same episode, there was intermodal complementarity. The analysis was conducted in reference to the playthrough video and the corresponding transcripts. Transcripts were coded by highlighting lexical items that appeared in the video data. Similar to the lexical cohesion analysis, the goal of

[5] *Resemiotization* refers to how semiotic resources convey the same or similar meanings in different modalities as a social process (Iedema, 2001).

the intermodal complementarity analysis was to determine the relative density of the cohesive ties that bind the linguistic text to its visual environment. After identifying the lexical-visual ties, the list of items was coded for directionality. That is, data were coded based on whether the player encountered the visual element, followed by the lexical item or the lexical item followed by the visual element.

The primary goal of the game analysis was two-fold. First, to develop an understanding of how textuality is encoded linguistically and multimodally in a digital game, and, second, to contextualize the experiences L2 learners have as they play a digital game as an act of multiliteracy engagement. The latter represents the second half of the current study, the methods for which are presented in the following section.

METHODS FOR GAMEPLAY ANALYSIS

The goal of the learner study was to explore how L2 learners of German engage with *The Vanishing of Ethan Carter*. Previous research on DGBLL has focused primarily on learning outcomes, with a particular emphasis on vocabulary acquisition (deHaan, 2005; deHaan et al., 2010; Miller & Hegelheimer, 2006) and the development of communicative competence (Peterson, 2012; Reinders & Wattana, 2011; Zheng et al., 2009). Far less attention has been paid to the process of playing a digital game as an act of multiliteracy. Using several different methods for data collection, this study explores the gameplay process of L2 learners of German in an attempt to fill the existing gap in the literature.

Participants

After receiving approval from the Institutional Review Board (IRB) (Appendix A) participants for the current project were recruited from what are traditionally considered

third- and fourth-semester German courses—German 612 and German 328 respectively—at an R1 university in the south-central United States. German 612 ("Reading Modern Germany") is an intensive course that represents learners' second year of language study at the collegiate level. In German 612, using communicative, literacy-based, and content-based instructional approaches, learners continue their language and intercultural learning through the exploration of different genres in popular films and literature, in addition to the course textbook.[6] Participants were also recruited from German 328, which typically follows German 612 in the course sequence. German 328 ("Advanced German Grammar") is a content-based course that emphasizes the development of learners' grammatical complexity and accuracy through class discussion and writing assignments pertaining to contemporary German youth culture. The goal of German 328 is to prepare learners for advanced coursework in German.

20 learners were recruited from German 612 and ten learners from German 328 in 2017. An additional learner from German 348D, a German theater course in which learners produce and are cast in a German play, had heard about the study and expressed interest in participating. This participant had previously completed German 343C, "Contemporary German Civilization," which traces the cultural, social, and literary history of Germany between 1900 and reunification of East and West Germany in 1990. The course, which is conducted in German, can only be taken after students have completed three hours of upper-division coursework. In total, 31 learners were recruited for the study—10 female and 21 males—between the ages of 18 and 28; however, only 25 participants recorded at least one gameplay session. Table 1 offers an overview of participants' demographic data.

[6] The textbook used in German 612 at the time of recruitment was *Stationen* (Augustyn & Euba, 2014).

Participant #	Age	Gender	Current Course	Last time playing a digital game	Perceived Gaming Ability
1	18	Female	GER612	This year	Beginner
2	20	Male	GER612	This week	Skilled
3	21	Male	GER612	This week	Casual
4	20	Female	GER612	This week	Casual
5	19	Female	GER612	This month	Casual
6	20	Male	GER612	This year	Casual
7	20	Female	GER612	This year	Novice
8	28	Male	GER612	This year	Casual
9	22	Male	GER612	This week	Skilled
10	22	Male	GER612	This week	Skilled
11	18	Female	GER612	This week	Casual
12	18	Female	GER612	As a child	Novice
13	18	Male	GER612	This week	Skilled
14	22	Male	GER612	This week	Expert
15	24	Male	GER612	This week	Expert
16	20	Female	GER612	This year	Casual
17	20	Male	GER612	This year	Skilled
18	20	Male	GER612	This month	Casual
19	19	Male	GER348D	This week	Casual
20	20	Male	GER328	This year	Beginner
21	22	Male	GER328	This week	Casual
22	20	Male	GER328	This week	Skilled
23	28	Female	GER328	This week	Casual
24	22	Female	GER328	This week	Casual
25	21	Male	GER328	This week	Beginner
26	21	Male	GER328	This week	Expert
27	19	Male	GER328	This week	Casual
28	21	Male	GER328	Last year	Casual
29	22	Female	GER328	Last year	Casual

Table 1: Summary of participants.[7]

[7] Only 29 of the 31 participants are shown in Table 1. Two participants signed the informed consent but then did not complete the pre-study questionnaire and did not participate further.

Participants were recruited during the final 15 minutes of class in their given courses. During the recruitment session, I informed learners about the nature of my study; namely that I would be investigating digital games for language learning purposes. Learners were also told about the compensation for participating in the study—three extra credit points to be added to their final course grades. Learners were informed about the presence of violence, graphic scenes, and the suspenseful nature of the game, as well as the methods for data collection. Learners with previous experience playing *The Vanishing of Ethan Carter* were excluded from the study. At the end of the recruitment session, learners were able to ask questions and were provided with the informed consent form (Appendix B). Learners were given time to read through the informed consent document and reminded that they could discontinue their participation in the study at any time without any repercussions from myself, their instructors, or the department. Informed consent forms had places for two signatures that corresponded to the audio and video recordings respectively.

Signed informed consent forms were then used to assign participants to dyadic groups by entering participants' names into a spreadsheet organized by course. Then, participants' names were randomly sorted. One name from the top and one from the bottom were taken to make a pair. Due to an uneven number of participants from German 612, one participant was not assigned a partner and an additional participant from German 612 could not reach his partner and elected to play solo. After pairs had been randomly assigned, an e-mail was sent with a link to a Google document with time slots for the first gameplay session. Participants were asked to communicate with one another in order to find a time that worked for both parties and then enter their names in the Google document to secure

that gameplay time slot. Once pairs had signed up for a gameplay session, another e-mail was sent with room information for the gameplay session.

Gameplay Sessions

Room and Equipment

Gameplay sessions took place in a small room on campus of the university. The room serves as a storage room for other office equipment, such as tables, chairs, desks, and electronic equipment, with bookshelves along one wall, a whiteboard along an adjacent wall, and three windows with blinds along a third wall. On the fourth wall is the retractable projections screen. The room is also equipped with a ceiling-mounted, 720 p projector and a wall-mounted VGA-port. It is important to note that the blinds had to be fully closed in order to be able to see the projection of the game. In the middle of the room were six individual desks—three facing the whiteboard and three facing the projection screen.

The computer used for this study was my personal computer. The computer specifications include an Intel® Core™ i5 processor that runs at 3.40 GHz, 8 GB of RAM, and an NVIDIA GeForce GTX 770 graphics card. Two softwares were required for the study: (1) Steam, used to purchase, download, and play digital games on gaming PCs from the Internet; and (2) XSplit, a subscription-based, screen-capture program that records what happens on screen. In addition, XSplit supports the use of a camera that records the player and their reactions during gameplay. Additional hardware used in conjunction with the computer included a keyboard, mouse, and speakers. Participants also had access to a laptop that included walkthrough videos of the entire game, created from the third playthrough described above. These walkthrough videos, which showed ideal playthroughs of a game from the game's beginning to its successful conclusion, were designed to avoid

unnecessary difficulties and aimless wandering should groups choose to access them. Finally, participants had access to transcripts of all dialogues and texts throughout the entire game (Appendix C, German; Appendix D, English).

Player and Co-Player Assignments

Prior to beginning their first gameplay session, participants confirmed they had completed the pre-study questionnaire (Appendix E). They were then instructed to select who would be the player and who would be the co-player and informed that they would maintain the same role throughout the whole study. Some participants deferred the role of player while other groups chose to select their player or co-player roles randomly by playing "Rock, Paper, Scissors." After determining their roles, participants were given a short explanation of how gameplay sessions would run and were shown their debriefing sheet (Appendix K), with the controls and instructions for playing.

Measures

Several measures were employed in order to provide a more complete picture of the gameplay process and the participants' role(s) in that process. The measures included a pre- and post-study questionnaire, audio and video recordings of gameplay sessions, recall protocols, and semi-structured interviews with participants. Each measure is described in more detail below.

Questionnaires

Before their first gameplay session, participants were asked to complete a pre-study questionnaire (Dörnyei & Taguchi, 2010). The pre-study questionnaire elicited demographic information about the participants, including name, experience with learning

German in and out of a classroom environment, and previous experience playing digital games. The post-study questionnaire (Appendix F) collected data from those participants who completed the game, with a focus on their perceptions of their gameplay experience.[8]

Gameplay Session Recordings

Participants' gameplay sessions were audio- and video-recorded using XSplit through a webcam and accompanying microphone. The screen-capture recordings revealed dyads' progression through the game world and their interaction with elements in the digital world. The webcam recordings showed participants' reactions to on-screen events, as well as when and how participants accessed supplementary materials (i.e., transcripts and walkthrough videos). Finally, the audio recordings captured the verbal interactions between the player and the co-player. The data collected from the recording of gameplay sessions created multiple perspectives on different aspects of the gameplay process, thereby triangulating participants' experience on and off screen.

Recall Protocols

Recall protocols are often used in studies interested in learner comprehension of texts (Bernhardt, 1983; Gass & Mackey, 2000). A modified version of recall protocols (Appendix G) were collected immediately following each gameplay session. Participants were sent a link to a private document with a series of questions regarding the game's plot, predictions for the next session, and their emotional reaction to the session. For the purposes of the current research project on literacy practices vis-à-vis digital games, the

[8] The results of the post-study questionnaire on learners' perceptions is beyond the scope of this dissertation.

recall protocols were not analyzed. However, future inquiries could investigate the qualitative differences between players' and co-players' responses.

Semi-Structured Interviews

Two semi-structured interviews were conducted at the end of the semester. Questions were designed to generate informal discussion amongst participants and elicit their perceptions of their experience during gameplay (Braun & Braun, 2013).[9] Only those groups who completed the game were asked to participate in the focus group interview. The semi-structured interviews gave participants the opportunity to engage in a discussion with their peers about playing a digital game in their L2, thereby participating in an affinity group (Gee, 2007). Similar to the recall protocols, analysis of the data collected from the semi-structured interviews is beyond the scope of this study but will provide valuable insights for future lines of inquiry.

Data Preparation and Analysis

While the design and measures of the current research project generated an overwhelming amount of data, the present study focuses on the L2 learners' gameplay process as an act of multiliteracy engagement. As such, three analyses were conducted, using the video- and audio recordings as primary sources of data. The three analyses included the ways in which groups employed supplementary materials, the conversational patterns between players and co-players, and a qualitative analysis of groups' experience in solving the game's narrative puzzle and their subsequent engagement with the game's embedded linguistic texts.

[9] See Appendix H for a list of the questions that guided the discussion.

Prior to analysis, the recordings of gameplay sessions were first organized by group. Only groups who completed the game were selected for further analysis. After categorizing the data by group, the vocal tracks of the recordings were isolated from the video recordings using the software program Audacity. To isolate the vocals, the video file in mp4 format was converted to an mp3 file and then imported into Audacity. In Audacity, a stereo copy of the mp3 file was created and the center-pan vocal track removed. The copied mp3 file was then analyzed for its sound profile, which was saved and applied to the original mp3 through the noise reduction effect to remove all but the vocal track, which could then be saved separately. The audio tracks with vocal isolations were then analyzed for the utterance[10] counts of both player and co-player. In addition to isolating vocals, it was necessary to identify semiotic zones within the game, accomplished by watching the playthrough video and designating visual and auditory cues that signaled a change from one chapter to the next. A total of fourteen semiotic spaces were identified and coded—five zones for narrative chapters, five zones for death puzzles, two zones for houses with clear boundaries, one zone for finding Ethan, and one designation for transitions to account for spaces between narrative-centric episodes. The final step in preparing the data for analysis was the close transcription[11] of a section of gameplay during which groups solved the puzzle in the zone "Fallen." The transcripts of player-co-player interactions were then analyzed for interactional trends vis-à-vis puzzle-solving and for verbal engagement with the linguistic text and its corresponding multimodal environment.

In order to analyze the use of supplementary materials and the conversational patterns of groups, the video- and audio recordings were watched three times for each

[10] An utterance is defined here as encompassed by silence or as a change in turn-at-talk (Sidnell, 2010).
[11] See Appendix I for a list of transcription conventions.

session per group. During the first watch, the data were coded for the length of time the group spent in each zone, based on the visual and auditory marks assigned previously. During the second watch, the data were coded for utterance counts by use of the tally function in Microsoft Excel. During the third and final watch, observational qualitative notes were taken for each session, with a focus on patterns of interaction. After the video recordings of gameplay sessions had been coded, the section of video in which groups solved the puzzle "Fallen" were transcribed using a simplified version of Conversation Analysis transcription conventions. The transcripts were analyzed on two fronts: (1) for participants' conversational patterns indicative of their gameplay style during the process of solving the puzzle and (2) for participants' interactions that highlighted textual and multimodal interpretation with the chapter's narrative portion.[12]

CONCLUSION

In this chapter, I have described the methods employed in the analyses of textuality and L2 learner engagement with *The Vanishing of Ethan Carter.* The next chapter presents the results of the textual analysis of the game, focusing on the instantiation of cohesion through lexical and multimodal semiotic resources. The following chapter presents the analysis of L2 learners' engagement with the *Vanishing of Ethan Carter* as a text, including their unique use of supplementary materials, in tandem with communication patterns and a qualitative analysis of their interactions with textual features of the game world.

[12] Players only gain access to the narrative information as a result of solving the preceding puzzle.

Chapter 4

Game Analysis

The complexity of digital games as cultural products and forms of entertainment creates a theoretical and practical difficulty when conducting a critical analysis. With game studies as a relatively new scholarly field of inquiry, researchers have struggled to balance the discussion between a digital game's mechanics and hardware and the content presented, often in the form of a narrative. Unlike other story-telling media, such as novels and films, digital games rely on constant input from a hardware source and feedback from a player in the role of an avatar to advance the plot. The relationship between *ludology* (i.e., the study of games) and *narratology* lies at the center of digital game literacy theories (Apperley & Beavis, 2014). In addition, the diversity in genres and game types creates issues when attempting to discuss "games" more generally. As Aarseth (2012) points out:

> We often commit the mistake of using the metonymic term "games" for software that in reality are integrated crossmedia packages, such as *Max Payne* (2001) which contains graphic novel pages and movie-like cutscenes (short animated movie clips that interrupt the gameplay), as well as ludic components. (p. 130)

Aarseth highlights the way in which digital games marry multiple forms of media and modalities to create a singular and unique type of text. In most commercial digital games,

the visual modality is dominant; however, other modalities—including audio, linguistic, and tactile—facilitate the believability of the game, create a sense of immersion, and provide players with essential information about the game's structure and narrative.

Through careful combinations of multimodal elements, digital games often convey surprisingly subtle and nuanced meanings that would be well-suited in a language learning context. From a pedagogical perspective, the incorporation of digital games into classroom contexts requires language educators to recognize ludic and narrative components of a game, in addition to how the visual, linguistic, aural, and kinesthetic meanings of a particular digital game combine and to what effect (Serafini, 2014). This chapter investigates the interplay of semiotic resources in *The Vanishing of Ethan Carter* (The Astronauts, 2014) in an attempt to uncover the meaning-making potential of the digital game. In particular, the analyses focus on how the game presents narrative information to the player through a combination of mechanics and multimodal resources to convey the plot through the lens of a detective searching for a missing boy. The following research questions guide the close-reading of the ensemble:

1. How does *The Vanishing of Ethan Carter* structure information, both mechanically and narratively, from a genre standpoint?
2. How is cohesion constructed and maintained lexically between chapter texts, as well as between chapters?
3. How does intermodal complementarity facilitate intra- and inter-chapter multimodal cohesion?

The result of the analyses contribute to a growing understanding of how the game combines design features with semiotic resources to produce a multimodal ensemble

(Serafini, 2014) with a coherent interactive narrative in order to interpret players' actions in a live gameplay setting (see Chapter 5). Before presenting the multimodal analysis, however, the narrative and mechanic details of *The Vanishing of Ethan Carter* are synthesized.

THE VANISHING OF ETHAN CARTER

The Vanishing of Ethan Carter is a first-person perspective,[1] detective-mystery digital game for PC with generic elements taken from Gothic literature and weird fiction à la H.P. Lovecraft. The player adopts the role of Detective Prospero, who has been assigned a case after receiving a letter from a boy named Ethan Carter. The letter has alerted Detective Prospero to the fact that something other-worldly is occurring in Red Creek Valley, where Ethan and his family live. Ethan's parents, Missy and Dale, brother, Travis, grandfather, Ed, and uncle, Chad (Image 3), became caretakers of the Vandegriff estate in Red Creek Valley, but a fire at the Vandegriff residence caused the Carter family to fall on hard times, including Ethan's disappearance. When Detective Prospero enters Red Creek Valley, only traces of the family remain. With no witnesses and a trail of bodies, Detective Prospero must piece together puzzles scattered throughout the valley. The puzzles, once solved, reveal hand-written short stories and newspaper articles as clues to the mystery, characterizing Ethan's relationship with his family members, as well as information about the family's difficult past and Ethan's personality.

[1] In first-person perspective games, the player sees through the eyes of the character / avatar they are controlling.

Image 3: Red Creek Valley and the Carter Family.

As Detective Prospero explores the area further, he discovers the grisly murders of each member of Ethan's family. Through careful detective work, he learns that Ethan has discovered a secret room and has woken "der Schläfer" / *the Sleeper*. The Sleeper has poisoned the minds of Ethan's family against him, leading them to try to kill the young boy. The combination of clues leads Detective Prospero to an abandoned house by a lake in an otherwise pristine mountain valley, where the climax of the story unfolds. Detective Prospero discovers a secret door and enters the basement where he finds Ethan ostensibly sleeping. Upon awakening the boy, Ethan explains to the detective that he has come too late. At this point Detective Prospero learns he is merely a figment of Ethan's imagination—another character in one of Ethan's many stories—as the boy attempts to cope with the prospect of dying in a fire in the very house the player entered.

The gameplay mechanics complement the narrative and create an integrated experience for the player by giving them tasks that facilitate a detective role. As a detective, the player must locate and resolve five "puzzles"[2] that result in finding the short stories described above. To illustrate, the chapter about Ethan's uncle, Chad, begins as the player

[2] Each of the five puzzles corresponds to one of Ethan's family members. I refer to the puzzles as chapters, because they are obligatory to complete the game.

enters an abandoned house. On a desk next to the front door is a table with a note on it. The note appears to be an invocation of some sort and once read, a spell is activated, transforming all the doors in the house into portals. To solve the puzzle, the player must approach a doorway and select from three options the room they wish to enter. The goal is to replicate a house adjacent to the one in which the player finds the note. Once done correctly, the player enters a final doorway into what appears to be an alchemist's laboratory to find a short story about a magician who makes magic potions (Image 4).

Image 4: Chad's chapter puzzle.

The other primary game mechanic asks the player to investigate and solve the murders of Ethan's family members by returning the crime scenes to their original states. This requires the player to find missing pieces of evidence and investigate the scene thoroughly.

Language plays an integral role in crime scene puzzles. For instance, after coming across the first murder, the player must investigate a railcar that has blood on it. Words and questions float around the bloodstained railcar until the word "Kurbel" / *crank* appears. When the player is not looking in the direction where the crank is hidden, the word multiplies and moves sporadically around the screen (Image 5). However, when the player does look in the right direction, the words align, allowing the player to glimpse the item's missing location through a window into another world. The player must retrieve and replace the "Kurbel" / *crank* and any remaining clues before gaining access to the memory and setting the chronological order of events. After the crime scene has been restored to its original state, the player must sequence the events in the correct order. If done correctly, the scene plays from beginning to end, giving the player insights into the disease, "der Schläfer" / *the sleeper,* that seems to have infected Ethan's family.

Image 5: Game mechanics for murder investigations.

The overarching goal of the game analysis is to determine how *The Vanishing of Ethan Carter* creates a cohesive and coherent narrative. The linguistic analyses are grounded in SFL systems that elucidate the cohesive ties between in-game semiotic events, or "chapters." Namely, the analyses focus on how information is organized globally

through an investigation of the game's genre structure; how lexical items create connections between the various linguistic semiotic events; and how linguistic and multimodal resources interact with one another to achieve cohesion, as well as prosodic aesthetic information. Each analysis is presented as discrete; however, such a separation of the modalities is inauthentic, as they are co-articulated in tandem with one another.

This chapter presents a detailed examination of one prototypical episode within the game, during which several analyses are interwoven in order to demonstrate how the game creates a sense of cohesion and coherence, despite the non-sequentiality of the narrative. I begin by clarifying the non-sequential nature of information flow by investigating the genre structure of the game.

GENRE ANALYSIS

The construct of genre provides a means of classifying and organizing texts based on particular patterns in content or structure. Its pedestrian usage refers to the categorization of different texts by their content or plot, creating a *horizon of expectations* (Swaffar & Arens, 2005) for the "reader," allowing them to anticipate and predict the text's direction based on previous experience with similar texts. The SFL application of genre refers to a "staged, goal-oriented activity in which speakers engage members of a culture" (Martin, 1984, p. 25). In this way, the focus is on how genre manifests as a series of culturally-determined linguistic moves. From a pedagogical perspective, identifying a text's or ensemble's genre is a valuable heuristic device for learners to predict and anticipate what will happen next (Byrnes & Sprang, 2004; Crane, 2006; Swaffar & Arens,

2005). The genres included in *The Vanishing of Ethan Carter* include anecdotes, recounts, narratives, newspaper articles, an official letter, and personal notes.

The game analysis here begins with genre, as this construct provides a holistic understanding of how the game presents narrative-rich information to the player. The SFL approach to genre is often a matter of linear sequencing of generic stages. For instance, the story genre, *anecdote* is characterized by the resolution of a complicating event. The stages of an anecdote include an ORIENTATION, a REMARKABLE EVENT, and a REACTION (Martin & Plum, 1997; Martin & Rose, 2008; Rothery & Stenglin, 1997). To demonstrate, one of Ethan's short stories—allegorically about his grandfather, Ed—is presented in Table 2.

German	English
„Saft“ **Orientation** Tag für Tag kam ein alter Mann in den Wald, um Saft von den Bäumen zu trinken. Um dorthin zu gelangen, musste der alte Mann an vielen gefährlichen Fallen vorbei. Die Dorfbewohner glaubten, dieser alte Mann würde ein Jadeamulett im Wald verstecken. Doch der alte Mann wollte, dass die Dorfbewohner das glauben. Denn so würden sie im Wald nach einem Schatz suchen und nicht seinen Saft trinken. **Remarkable Event** In einer kühlen Herbstnacht legte jemand ein Feuer im Wald, das sich bis zum Dorf ausbreitete. Der alte Mann entkam dem Feuer, indem er sich mit Saft bedeckte. Als er zum Dorf zurückkehrte, fand er nur noch die Knochen der Dorfbewohner.	*“SAP”* **Orientation** *An old man came to the forest every day to drink sap from the trees. To get there, the old man had to step around many dangerous traps. The villagers believed this old man had hidden a jade amulet in the forest. But the old man wanted the villagers to believe this, because then they would search the forest for treasure and not drink his sap.* **Remarkable Event** *One cool fall night someone set fire to the forest, and the fire spread to the village. The old man escaped the fire by covering himself in sap. When he returned to the village, he found all the villagers' bones.*

Reaction Der alte Mann setzte sich hin und weinte. Dann fand er noch mehr Saft.	**Reaction** *The old man sat down and cried. Then he found more sap to drink.*

Table 2: "Saft"/ *Sap* short story with genre stages.

The "Saft" / *Sap* short story opens with a stage that answers the *wh*-questions of *who*, *what*, *when*, and *where*, orienting the reader to the rest of the story. Anecdotes require a REMARKABLE EVENT to which there is an emotional REACTION at the end. In "Saft" / *Sap*, the REMARKABLE EVENT is a fire that burns through the forest and destroys the village. The transition from ORIENTATION to REMARKABLE EVENT is flagged by an adverbial phrase ("In einer kühlen Herbstnacht" / *One cool fall night*). New stages are often demarcated by such *marked themes*,[3] which break with the more frequent subject-verb syntactic structure, signaling the change to the reader. Anecdotes typically conclude with an emotional REACTION. In "Saft" / *Sap,* the old man's grief at the destruction of the town and death of the villagers highlights the emotional implications of the anecdote and thereby a potential take-away lesson for the reader.

The example above illustrates how each stage of the anecdote genre is the product of the previous stage and how sequentiality becomes key to the story type. If one were to move any of the stages to different positions, the story would be rendered more difficult to process or would change the genre entirely. It is exactly the sequence of stages that make anecdotes what they are, including "Saft" / *Sap.* Yet, when applying the same logic to *The Vanishing of Ethan Carter* more globally, player agency creates an issue with determining genre, because the game is comprised of multiple shorter texts. Much like a textbook that

[3] For more information on Theme/Rheme and marked vs. unmarked Theme/Rheme structure, see Martin and Rose (2003).

covers a larger topic—such as biology or history—and is made up of chapters that deal with more discrete subject matter (Martin & Rose, 2008), so too *The Vanishing of Ethan Carter* is a macrogenre with semiotic events or "chapters" that contribute separate, yet thematically related information about the larger narrative to the player. However, textbooks as macrogenres often compound and build on readers' knowledge sequentially. That is, chapter 2 tends to be easier to understand once the reader has read chapter 1. *The Vanishing of Ethan Carter* differs in this regard as a result of player agency and an orbital narrative structure, which leads to the first research question.

Research Question #1: How does *The Vanishing of Ethan Carter* structure information, both mechanically and narratively, from a genre standpoint?

To illustrate how the in-game texts, which provide the most narratively-dense information to the player, are organized, it is important to distinguish between both their function vis-à-vis gameplay mechanics (ludic orientation) and the overarching storyline (narrative orientation). However, regardless of gameplay mechanics and narrative, the game begins in the same fashion each time: After clicking on the 'Start' button and waiting on a black loading screen, the player is presented with a short text: "Dieses Spiel ist eine narrative Erfahrung und nimmt dich nicht an der Hand." / *This game is a narrative experience that does not hold your hand.* The text fades to black and a sense of forward motion is introduced. As the visual field resolves with more light, it becomes evident that the player is in some kind of dark tunnel. The brick walls seem to press in from all sides and the light towards which the camera appears to be moving is distant and irresolute. It is at this point that Detective Prospero begins to speak (Table 3). As the monologue comes to a close, the camera exits the tunnel, which reveals a forest dissected by train tracks and

on which the player is standing. It is at this point that the player takes control of Detective Prospero and truly begins the game.

German	Orientating Elements	English
Ich kannte Ethan Carter nicht. Aber er wusste wer ich war. Wenn dir die Polizei nicht hilft, und die Priester dir nicht glauben, wendest du dich an Paul Prospero. Du wendest dich an mich. Wenn du ein Kind wie Ethan bist, schreibst du. Viele tun das. Ethans Brief begann gleich wie jede andere Fanpost, doch schon bald wurden Dinge erwähnt, von denen kein kleiner Junge wissen sollte. Es gibt Orte, die nur wenige Leute sehen können. Ethan hätte eine Karte zeichnen können. Ich hatte das Red Creek Valley noch nicht betreten, aber ich konnte bereits spüren, wie mich die Dunkelheit dieses Ortes heimsuchte. Um Ethan Carter zu finden, würde es nicht damit getan sein, an seiner Tür zu klopfen. Dafür war es zu spät. Um Ethan zu finden, musste ich herausfinden, was dieser Ort versuchte, vor mir zu verbergen.	Who Why Who When What Where How	*Ethan Carter I didn't know. But he knew who I was. When the police won't help you, and the priests don't believe you, you call on Paul Prospero. You call on me. If you're a kid like Ethan, you write. Plenty do. Ethan's letter started out just like any other fan mail, but soon there were mentions of things no little boy should know about. There are places that exist that very few people can see. Ethan could have drawn a map. I hadn't entered Red Creek Valley yet, but already I could feel its darkness reaching out for me. Finding Ethan Carter wasn't going to be as easy as knocking on his door. I was too late for that. To find Ethan, I had to figure out what this place was trying to hide from me.*

Table 3: Detective Prospero's opening monologue.

Detective Prospero's opening lines, prior to player agency becoming a factor, serves as an ORIENTATION to the game's narrative, becoming the departure point for both mechanics and plot. How the game unfolds from there is dictated by the player but requires

them to engage with one of two primary mechanics: solving puzzles or investigating murders. Each mechanic contributes different information, unpacking the mystery of Ethan's disappearance and family's presence in Red Creek Valley, as laid out by Detective Prospero in the monologue.

After the player takes control of their avatar, the ludic-narrative[4] path divides into two conceptual threads of potential action that, when completed, unveil new information about the mystery for the player to piece together. In the following paragraphs, both the "fantasy" and the "real" branches of the macrogenre map are explored in terms of how they are manifested in gameplay and how they contribute to an understanding of the game's schematic structure. Beginning with the "fantasy" branch, as the player explores the game world, they discover different murder scenes. To solve the murders, the player must locate two to three items or clues that have been scattered in the vicinity and restore them to their original location. Once all items have been retrieved and replaced, the player is tasked with determining the chronological order of five to six snapshots of the murder scene. Once the order has been correctly determined, the player is able to play through the different scenes, thereby witnessing the murder as a recollection.

While solving murders is not compulsory to complete the game, the murder reenactment provides the only visual of Ethan's family members until the final scene of the game. With regard to the ludic map in Figure 3, murders are part of the "fantasy" narrative line, contributing to a parallel storyline in which Ethan is being pursued by his family who have contracted a sickness. The sickness leads each member of Ethan's family

[4] Because narrative events in digital games are often perpetuated by players' interactions and agency, the storyline and gameplay are closely intertwined and must therefore be discussed in conjunction when exploring generic conventions.

to madness, convincing them that Ethan must be sacrificed to an illusory figure named "der Schläfer" / *the Sleeper*. Contradictory to the visual cues of the murder scenes—hyper-realistic corpses, blood, and gore—these narrative scenes are revealed to be distinctly fantastical in the final scenes of the game. From a narratological perspective, the realistic graphics that accompany these events help to maintain a sense of immersion, while simultaneously distracting the player from the reality of the other fork in the conceptual map.

Moving to the other side of the ludic macrogenre map, the "reality" of the storyline is represented by a series of short, fictitious stories written by Ethan for each of his family members. As indicated in Figure 3, each familial episode is discrete and unrelated to the others. Locating and reading each short story is necessary for completing the game, although there is no pre-determined order in which the player must encounter the short stories. In order to find one of Ethan's writings, the player must solve a puzzle that is thematically related to the story itself. Often, in resolving the puzzle, the player reenacts salient features of the text. For instance, if the text recounts the story of a magician with enchanted doorways, the player has to navigate through a house with magical doorways.

The top-down orientation presented in Figure 3 represents the two primary mechanics with which the player engages as they move through the game, as well as the sequencing of texts within semiotic events. It presents, however, a false dichotomy of text organization as the player does not actually have to choose between *murder* or *puzzle* paths, but rather can experience the game in multiple configurations (see Chapter 5). Thus, this representation of the game reveals the relation between mechanics and narrative information. As such, it provides valuable information on the game's organization, which

could provide players a heuristic mechanism for developing their horizon of expectations during gameplay.

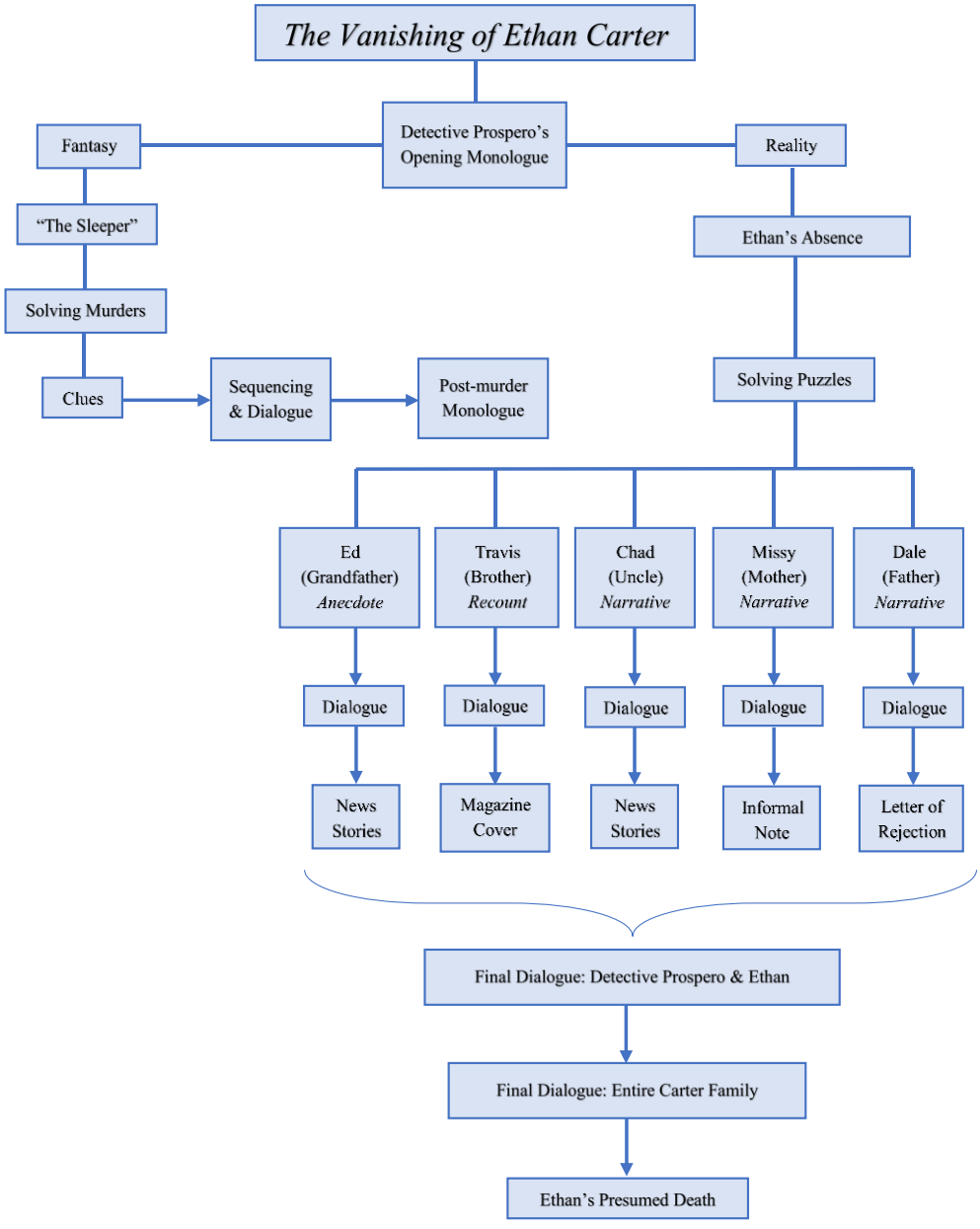

Figure 3: Ludic Conceptual Map.

With regards to the narrative, an orbital structure necessitates a different mapping of the genre, similar to that of "hard news." The "hard news" genre organizes information around a nucleus-satellite model in which what is seen to be the most socially significant aspect of the story is presented in the headline and lead sentence, followed by satellites that serve to expand on the nucleus via elaboration, contextualization, explanation, or evaluation (White, 1997). Similarly, *The Vanishing of Ethan Carter* presents the intrigue and purpose of the game in Detective Prospero's opening monologue before handing over the reins and agency to the player. A visual representation of this information structure can be seen in Figure 4.

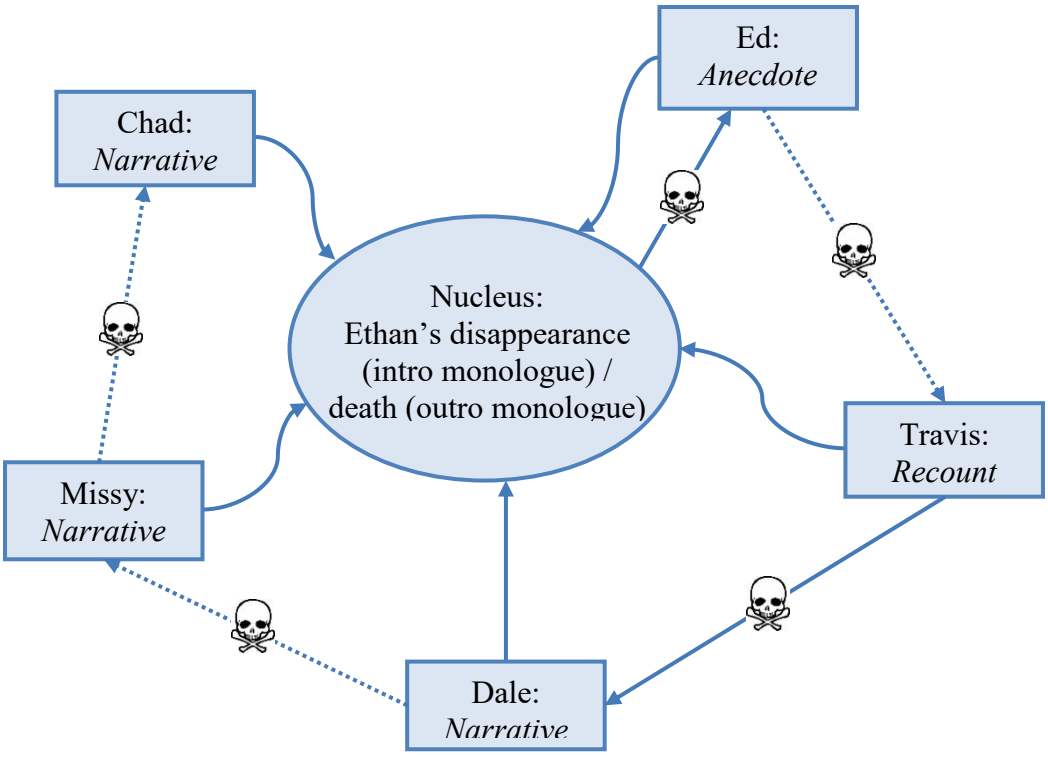

Figure 4: Narrative Conceptual Map.

The Figure 4 map combines both ludic elements of gameplay and the content of the storyline. At the center of the gameplay experience is Ethan's disappearance, creating the *reason for playing* as the nucleus. As Detective Prospero, the player facilitates the connection between ludic and narrative components within the game. To solve the mystery and find Ethan, the player solves puzzles to unlock the semiotic events that elucidate Ethan's relationship with his family, which serve to contextualize his disappearance while simulating a detective's job to investigate. In the figure, the solid lines represent compulsory elements that the player must solve in order to reach the end credits, including every chapter and Dale's murder. In short, each chapter or satellite can be experienced in any order, but all satellites contribute to the player's growing understanding of Ethan's familial troubles. This provides the player with a potential explanation for why Ethan has isolated himself in the basement of an abandoned house to pursue his creative writing. When his family finally finds him at the end, they squabble amongst themselves before his mother accidentally sets fire to dilapidated furniture, trapping Ethan and inadvertently causing his death.

It is important to keep in mind that the genre structure of the in-game texts seen in Figure 4 only remains so until interacted with by the player. By solving the puzzle mechanic, the player goes through the sequence of *short story* → *dialogue* → *artifact(s)*, thereby creating a linear gameplay experience. Through their engagement, the player creates sequentiality, although not diegetically temporal. In other words, the game's genre is simultaneously both orbital and linear. Although similar in many ways, this differs from the "hard news" orbital structure (White, 1997), which is organized for the reader by an author before they encounter the text, because of player agency and the built-in generic

mechanic of being a detective-mystery game in which the player has to *discover* information as a product of their avatar, Detective Prospero's role in the narrative. This is a unique distinguishing factor of digital games and demonstrates the seamless integration of gameplay mechanics and plot structure.

The above discussion of the genre structure *The Vanishing of Ethan Carter* reveals how each narrative-rich text informs the nucleus of the story; however, it does not demonstrate how each narrative text is tied to the others. This leads to the next analysis, which attempts to articulate links between divergent chapters and more locally between different genres of texts that comprise a single semiotic event or chapter by tracing the specific lexical items that bind the linguistic texts together.

LEXICAL COHESION ANALYSIS

The way in which the game presents narrative-salient information to the player, as laid out in the genre analysis, reveals a nucleus-satellite information structure of the game, which does not necessarily foster cohesion in the narrative. The cohesion becomes only evident after the final scene concludes, where the player learns that Ethan's isolation from his family has led to his disappearance. The lack of sequentiality makes it difficult to create cohesive ties temporally, particularly when players may have significant "troughs" without meaningful narrative input. This analysis is an attempt to trace the cohesive ties that bind the opening and closing monologues—which not only function as the nucleus-anchor of the plot, but also bookend the player's experiences—to other semiotic events and the multimodal environment.

From an SFL perspective, there are three primary text-internal devices for establishing cohesion within a text: reference, conjunction, and lexical cohesion. Reference traces participants throughout the text. Conjunction devices relate clauses to those that precede and follow them. Finally, lexical cohesion creates a cohesive semantic field through related lexical items (Eggins, 2012; Halliday & Hasan, 1976; Halliday & Matthiessen, 2004). For this analysis, I draw on a combination of lexical cohesion to establish the lexical field[5] and reference to address additional deictic items that point back to specific lexical themes. In the following section, framed by my second research question, I present an analysis that highlights the intra-chapter cohesive devices, focusing specifically on the chapter featuring Ethan's grandfather, Ed.

Research Question #2: How is cohesion constructed and maintained lexically between chapter elements, as well as between semiotic events?

The analysis of cohesive devices targets a specific chapter in the game in order to demonstrate how potentially disparate texts may still function as a cohesive unit. The chapter in question focuses on Ethan's relationship with his grandfather, Ed. I include Detective Prospero's opening monologue because of its role as part of the narrative nucleus. Before presenting the analysis in full, however, an in-depth description of how the chapter plays out contextualizes the experience.

As previously described, the monologue is presented as the camera moves through a tunnel, following a set of railroad tracks that lead to the tunnel's opening. As the camera reaches and stops at the tunnel's exit into a forest, the player is given agency to look and move around. If they choose to explore the surrounding forest, prior to crossing a long

[5] A *lexical field* is a group of semantically related words that co-occur in a text, thereby creating cohesion lexically (Eggins, 2012; Halliday & Hasan, 1976; Halliday & Matthiessen, 2004).

bridge, they are likely to discover several traps that seem to only barely miss the player's avatar.

Once all the traps have been discovered and investigated, the traps open a window to what appears to be another parallel dimension, with the camera focused on a particular tree in the distance. As the portal opens, the color scheme is more grey-scale than before, and the ground is covered with bones. If the player approaches the tree, they discover a text at its base. Written in a childlike scrawl on loose-leaf notebook paper (Image 6) is a short story titled "Saft" / *Sap* (see Table 2 for the genre presentation of the short story).

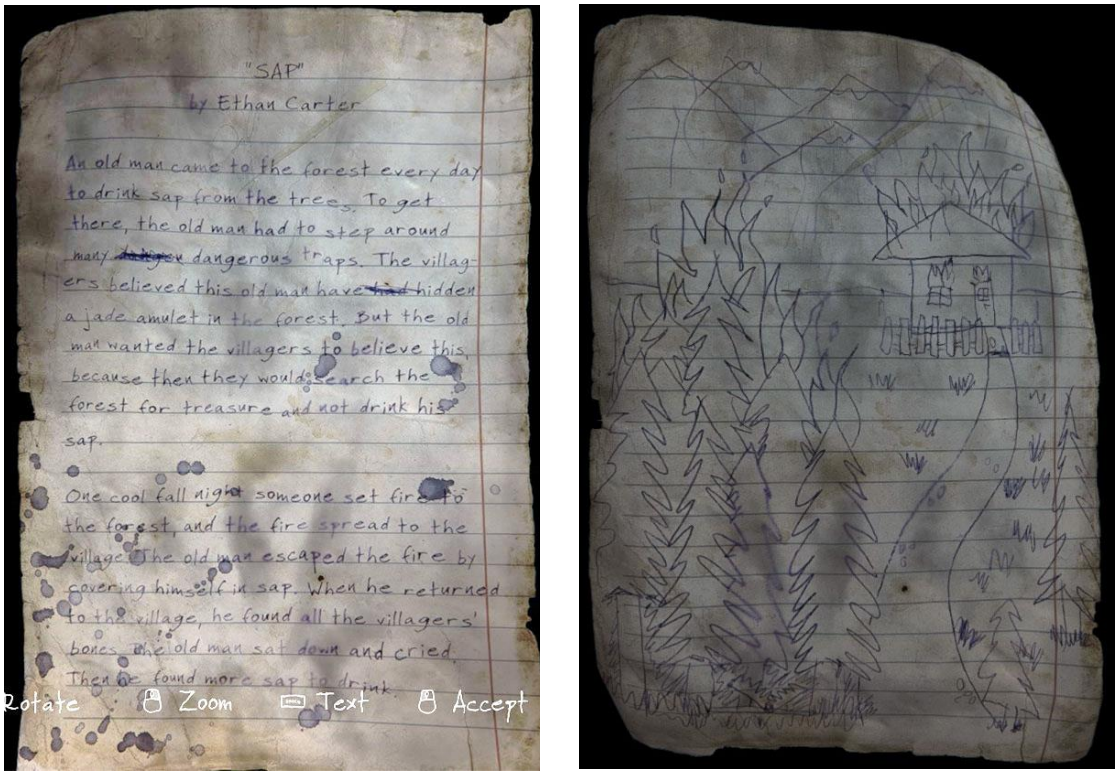

Image 6: "Saft" / *Sap* visual representation; front (left) and back (right).

Mechanically, upon setting down the story, the player experiences a short dialogue between Ethan and Ed against a black screen. After the dialogue, the visual field resolves to the same tree, but now the ground is littered with beer bottles and empty cigarette packages and there is a firepit next to the tree. In the firepit, it appears as though someone attempted to burn a number of items, including part of a newspaper. The player is able to pick up and read the newspaper, which features two partially-intact articles. The first article details a housefire resulting in the death of a woman and the second article covers the Vandegriff family inheritance, which marks the end of that chapter.

Analysis of the texts in this chapter unit revealed three primary themes: ***writing***, ***fire***, and the concept of something being ***hidden* or *missing***. These are significant themes throughout the game, and it is therefore not surprising that they would receive attention in the opening scenes. Each text that comprises Ed's chapter, in addition to the opening monologue are presented below in Tables 4, 5, 6 and 7. For easier identification, the themes have been bolded and underlined to make them more salient.

German	**English**
Detective Prospero's Opening Monologue	
Ich kannte Ethan Carter nicht. Aber er wusste wer ich war. Wenn dir die Polizei nicht hilft, und die Priester dir nicht glauben, wendest du dich an Paul Prospero. Du wendest dich an mich. Wenn du ein Kind wie Ethan bist, **schreibst** du. Viele **tun das**. **Ethans Brief** begann gleich wie jede andere **Fanpost**, doch schon bald wurden **Dinge erwähnt**, von denen kein kleiner Junge wissen sollte. Es gibt Orte, die nur **wenige**	Ethan Carter I didn't know. But he knew who I was. When the police won't help you, and the priests don't believe you, you call on Paul Prospero. You call on me. If you're a kid like Ethan, you **write**. Plenty **do. Ethan's letter** started out just like any other **fan mail**, but soon there were **mentions of things** no little boy should know about. There are places that exist that very **few people can see**. Ethan could have **drawn a map**. I hadn't entered Red

Leute sehen können. Ethan hätte eine Karte zeichnen können. Ich hatte das Red Creek Valley noch nicht betreten, aber ich konnte bereits spüren, wie mich die Dunkelheit dieses Ortes heimsuchte. Um Ethan Carter zu finden, würde es nicht damit getan sein, an seiner Tür zu klopfen. Dafür war es zu spät. Um Ethan zu finden, musste ich herausfinden, was dieser Ort versuchte, vor mir zu verbergen.	Creek Valley yet, but already I could feel its darkness reaching out for me. Finding Ethan Carter wasn't going to be as easy as knocking on his door. I was too late for that. To find Ethan, I had to figure out what this place was trying to hide from me.

Table 4: Detective Prospero's opening monologue.

German	English
"Saft" / *"SAP"*	
Tag für Tag kam ein alter Mann in den Wald, um Saft von den Bäumen zu trinken. Um dorthin zu gelangen, musste der alte Mann an vielen gefährlichen Fallen vorbei. Die Dorfbewohner glaubten, dieser alte Mann würde ein Jadeamulett im Wald verstecken. Doch der alte Mann wollte, dass die Dorfbewohner das glauben. Denn so würden sie im Wald nach einem Schatz suchen und nicht seinen Saft trinken. In einer kühlen Herbstnacht legte jemand ein Feuer im Wald, das sich bis zum Dorf ausbreitete. Der alte Mann entkam dem Feuer, indem er sich mit Saft bedeckte. Als er zum Dorf zurückkehrte, fand er nur noch die Knochen der Dorfbewohner. Der alte Mann setzte sich hin und weinte. Dann fand er noch mehr Saft.	An old man came to the forest every day to drink sap from the trees. To get there, the old man had to step around many dangerous traps. The villagers believed this old man had hidden a jade amulet in the forest. But the old man wanted the villagers to believe this, because then they would search the forest for treasure and not drink his sap. One cool fall night someone set fire to the forest, and the fire spread to the village. The old man escaped the fire by covering himself in sap. When he returned to the village, he found all the villagers' bones. The old man sat down and cried. Then he found more sap to drink.

Dialogue between Ethan and Ed	
Ed: Ethan, ich hab dir doch gesagt, du darfst nicht hier sein. Ethan: Aber Opa, ich **habe etwas** für dich **geschrieben**. Ed: **Das** ist toll. Danke. Leg **es** einfach dort hin. Ich **lese es** später.	Ed: Ethan, I told you – you can't be here! Ethan: But Gramp – I **wrote something** for you. Ed: **That**'s real nice. Thank you. Just leave **it**. I'll **read it** later.

Table 5: "Saft"/ *Sap* and the following dialogue.

German	English
Newspaper Article: Front	
EIN TOTER BEI **HAUSBRAND** **von** Jeff Jurmu BAYFIELD COUNTY – Mittwochmorgen wurde ein historisches Haus in Red Creek Valley durch **ein Feuer** **beschädigt**, so die **Feuerwehr** von Bayfield County. Eine sechsköpfige Familie schlief, als **der Brand** in dem abgelegenen Haus in 46 Old Odgen Road in Creek Valley **ausbrach**, das früher Albert Vandegriff gehörte. Gayle Carter (58) wurde noch am Unfallort für tot erklärt. Die übrigen Familienmitglieder konnten **entkommen**. Carters Ehemann Edwin (62) erzählte den Ermittlern, er sei womöglich mit einer **angezündeten Zigarette** in seiner Hand eingeschlafen. **Feuerwehrleute** wurden um 01:22 Uhr zum Unfallort geschickt und verblieben dort bis Mittwoch um etwa 05:00 Uhr.	ONE DEAD IN **HOUSEFIRE** **by** Jeff Jurmu BAYFIELD COUNTY – **Fire** **damaged** a historic home in Red Creek Valley Wednesday morning, according to **officials** from the Bayfield County **Fire Department**. A family of six was asleep when **the blaze broke out** at the remote house, once owned by Albert Vandegriff, at 46 Old Ogden Road in Red Creek Valley. Gayle Carter, 58, was pronounced dead at the scene. Remaining family members were able to **escape**. Carter's husband, Edwin, 62, told investigators he may have fallen asleep with a **lit cigarette** in his hand. **Firefighters** were dispatched to the scene at 1:22 a.m. and remained at the scene until around 5 a.m. Wednesday. They returned to the property four hours later to

Vier Stunden später kehrten sie zu dem Anwesen zurück, um **Glutnester** zu **löschen**, die **wieder** **entfachten**. Beim **Entstehungsbrand** half die **freiwillige Feuerwehr** der Gemeinde Ashland. Der Rettungsdienst von Masonville war am Unfallort in Bereitschaft.	**extinguish hot spots**, which had **rekindled**. Assisting at **the initial fire** was the Ashland Township Volunteer Fire Department. Masonville Emergency Medical Services was on standby at the scene.

Table 6: Newspaper article (front).

German	English
Newspaper Article: Back	
NACH **HITZIGER** ÖFFENTLICHER ANHÖRUNG NOCH KEINE ANTWORTEN FÜR VANDEGRIFF-ERBEN **von** Tom Auten BAYFIELD COUNTY – Mitglieder der Familie Vandegriff versammelten sich heute erneut im Gericht von Bayfield County, um über das Vandegriff-Vermögen zu verhandeln, das seit 1961 treuhänderisch verwaltet wurde, als Albert Vandegriff im Alter von 71 Jahren bei einem Grubenunglück ums Leben kam. Die Nachwirkungen zerstörten beinahe Vandegriff Industrial und schadeten der lokalen Wirtschaft schwer. James Vandegriff (38) aus Chicago behauptete, die Ansprüche seines Vaters wären „unverschämt“ gewesen und viele Vandegriff Familienmitglieder hätten „persönliche Gründe“, nicht in Red Creek	AFTER **HEATED** PUBLIC HEARING, NO ANSWERS FOR VANDEGRIFF HEIRS **by** Tom Auten BAYFIELD COUNTY – Members of the Vandegriff family again gathered in the Bayfield County Courthouse today to debate the fate of the Vandegriff fortune, which has remained in escrow since 1961, when family patriarch Albert Vandegriff, 71, died in a mine accident, the aftereffects of which nearly destroyed Vandegriff Industrial and severely damaged the local economy. James Vandegriff, 38, of Chicago, argued that his father’s demands were “unreasonable,” and that many Vandegriff family members have “personal reasons” for wanting to avoid living in Red Creek Valley on the Vandegriff estate, as stipulated in the elder Vandegriff’s **will**.

Valley auf dem Vandegriff-Anwesen zu leben, wie im **Testament** des älteren Vandegriff festgelegt. **Das Feuer**, bei dem das Vandegriff-Anwesen vor Kurzem **beschädigt** wurde, so sagt er, hat die Bedenken seiner Familie noch weiter hervorgehoben. Seit 1967 lebte die Familie Carter auf dem früheren Vandegriff-Anwesen als Hausverwalter.	The recent **fire** in which the Vandegriff home was **damaged**, he said, only underlined his family's concerns. Since 1967, the Carter family has lived upon the former Vandegriff estate as temporary caretakers.

Table 7: Newspaper article (back).

Writing plays a central role to the game's plot, as it is one of Ethan's most defining characteristics. Indeed, the chapter above is framed by *writing* and illustrates how Ethan's short stories elaborate on his relationships with his family. As discussed in the genre analysis, the player must find a total of five short stories such as "Saft" / *Sap* by solving a puzzle that is narratively related to the story itself. It is through his writings that Ethan explores the hardships and character flaws of his family through a combination of allegory and fantasy. The topic of *writing* has a strong lexical presence in the opening monologue (Table 4) and the dialogue between Ethan and Ed (Table 5, bottom), but less in the short story (Table 5, top) and newspaper articles (Tables 6 and 7). The two texts with weaker lexical cohesive ties to the other textual units are themselves written artifacts that the player picks up and reads, as opposed to the monologue and dialogue, which are presented in spoken discourse, creating a multimodal cohesive tie to the topic of *writing*. The topic of *writing* also serves as a clue to the final twist of the game, that the player's character, Detective Prospero, is merely another one of Ethan's imaginative inventions.

The topic of *fire* has a much stronger and consistent presence in the short story and the following newspaper articles but is absent from Detective Prospero's opening monologue. Knowing that the game concludes with Ethan's accidental death in a housefire makes the introduction of *fire* in the early stages of the game a form of foreshadowing. Indeed, although there is a lack of sequentiality in the order players experience the chapters, each chapter features implicit or explicit lexical or visual references to *fire*. In addition, the fact that the player experiences the last four minutes of Ethan's life as a kind of flashback, it is significant that *fire* features so prominently in the game's texts. Finally, in tracing the lexical cohesion between the newspaper article, which details the housefire that ended in the death of Ed's wife, and "Saft" / *Sap*, which features a forest fire that wipes out an entire village, it becomes clear that *fire* as a lexical frame provides the player with the resources to unpack the allegory of the chapter.

The third theme pertains to something *hidden* or *missing*, a central motif in the game's plot and premise of Ethan's disappearance. Although not as salient as *fire*, the subtle distribution of the *hidden / missing* theme contributes to the overall "creepy" aesthetic of the game and underscores the game's design grammar, which in turn reinforces the player's task of *searching* through counterpoint (i.e., for clues to murders, for puzzles and texts, for Ethan). In particular, *hidden / missing* lexical items are nonexistent in the chapter's closing newspaper articles. However, it is only by virtue of *searching* for *hidden* traps that the player even discovers the short story and the newspaper articles thereafter. This exemplifies how lexical ties mutually strengthen and support gameplay through multimodal resources, including spatial and kinesthetic resources that manifest as a result of player agency.

The cohesion engendered through *writing, fire,* and *hidden / missing* lexical fields, and emphasized by multimodal resources (discussed below) appears in the game's other chapters and in much the same way. Beyond Ethan's short stories as samples of *writing* that often feature *hidden / missing* characters or items (e.g., the witch in Missy's chapter, the light and teeth in Travis' chapter, the doorways and lab in Chad's chapter, and the miners and old god in Dale's chapter), each chapter includes textual artifacts and a commentary on Ethan's imagination and stories, often derogatorily. In addition, *fire* has a lexical or multimodal presence in each chapter (e.g., the light and fire in Travis' chapter, the fire and ash in Missy's chapter, the housefire in Chad's chapter, and the lantern in Dale's chapter).[6]

The role of Ethan's short stories in the narrative and gameplay mechanics is vital to the game's overall plot. However, when read in isolation (i.e., in transcripts), the stories seem to be random with little to connect them to the player's game world experience or the plot more generally. When placed into their given context, though, the game world envelops the stories as a natural part of the setting. This is achieved through multimodal cohesive resources that produce intermodal complementarity between the linguistic, visual, and audio semiotic resources (Painter & Martin, 2011). In the next section, I demonstrate how Ed's chapter relies on visual resources to create a strong local network of cohesive devices that spatially ground the chapter's linguistic texts.

[6] For full transcripts in German and English, see Appendices C and D respectively.

INTERMODAL COMPLEMENTARITY ANALYSIS

Of primary concern to an analysis of intermodal complementarity is determining where meanings from different modalities either converge or diverge. This kind of analysis is a useful tool for identifying how the visual and linguistic texts in *The Vanishing of Ethan Carter* interact with one another and has the potential to be applied to other modalities as well. For example, if the setting of a linguistic text is a forest, as is the case in Ed's chapter, and the diegetic soundscape represents wind rustling leaves, branches creaking, and birds calling, there is a strong level of convergence. Conversely, digital games exist in which the player may pick up a book and read a fairytale that is in no way related to their immediate surroundings, but rather exists to create depth and flavor to the world, such as in games like *The Elder Scrolls V: Skyrim* (Bethesda Game Studios, 2011). In that case, there would be a high level of divergence without breaking the immersion.

In addition, intermodal coupling, or "the repeated co-patterning within a text of realisations from two or more systems…within or across metafunctions" (Painter & Martin, 2011, p. 144), helps to delineate between the types of meanings being conveyed through convergence or divergence. For instance, the linguistic and visual depiction of a character would be a convergence of ideational intermodal coupling, while interpersonal convergence might be conveyed through the visual depiction of a character's gaze and a linguistic text that promotes an observational or participatory stance through choice of narrator. Finally, textual intermodal coupling could be encoded through a balanced presentation of visuals and linguistic information flow. Tracking the interplay of multimodal meanings is the basis for my third research question.

Research Question #3: How does intermodal complementarity facilitate intra-chapter multimodal cohesion?

To demonstrate how the game creates ideational intermodal complementarity, I examine Ed's chapter again, providing a side-by-side visualization of the cohesive ties that root the linguistic texts in the chapter to the visual, aural, and kinesthetic environment.[7] Importantly, some of the connections between linguistic text and multimodal environment point backward to what the player has just experienced, while others point forward to what is revealed after reading "Saft" / *Sap.* Table 8 represents the text-image relation for the circumstance of location, "Wald" / *forest*. As described above, in order to find Ed's short story, the player must explore the surrounding forest and locate five different traps. The lexical items that create anaphoric intermodal cohesion have been bolded and underlined for saliency, while cataphoric items have been italicized and underlined.[8]

German	**English**
"Saft" / *"Sap"*	
Tag für Tag kam *ein alter Mann* in **den Wald**, um *Saft* von **den Bäumen** zu *trinken*. Um dorthin zu gelangen, musste *der alte Mann* **an vielen gefährlichen Fallen** vorbei. Die Dorfbewohner glaubten, *dieser alte Mann* würde ein Jadeamulett **im Wald** verstecken. Doch *der alte Mann* wollte, dass die Dorfbewohner das glauben. Denn so	*An old man* came to **the forest** every day to *drink sap* from **the trees**. To get there, *the old man* had to step around **many dangerous traps**. The villagers believed *this old man* had hidden a jade amulet in **the forest**. But *the old man* wanted the villagers to believe this, because then they would search **the forest** for treasure and not *drink his sap*.

[7] The analysis below reflects patterns in the other five chapters in the game, but presenting each chapter is beyond the scope of this project.

[8] *Anaphoric* reference refers to "backward-pointing" semiotic resources and *cataphoric* reference to "forward-pointing" semiotic resources. In this case, anaphoric items mean that the lexical item appears after the visual element and cataphoric items involve the appearance of the lexical items before the visual element.

würden sie **im Wald** nach einem Schatz suchen und nicht *seinen Saft trinken*. In einer kühlen Herbstnacht legte jemand *ein Feuer* **im Wald**, das sich bis zum Dorf ausbreitete. *Der alte Mann* entkam *dem Feuer*, indem *er* sich mit *Saft* bedeckte. Als *er* zum Dorf zurückkehrte, fand er nur noch **die Knochen** der Dorfbewohner. *Der alte Mann* setzte sich hin und weinte. Dann fand *er* noch mehr *Saft*.	One cool fall night someone set *fire* to **the forest**, and *the fire* spread to the village. *The old man* escaped *the fire* by covering *himself* in *sap*. When *he* returned to the village, *he* found all the villagers' **bones**. *The old man* sat down and cried. Then *he* found more *sap to drink*.

Table 8: "Saft" / *Sap* intermodal complementarity.

The reflexive lexical items, such as "der Wald" / *forest*, "die Bäume" / *the tree*, "gefährliche Fallen" / *dangerous traps*, and "die Knochen" / *bones* (Image 7) represent elements in the player's visual field, experienced prior to finding the short story. These items serve to ground the player and the short story in terms of location, thereby binding the story to the gameplay mechanics and creating a sense of immersive story-playing.

Image 7: Reflexive visual intermodal complementarity for “Saft” / *Sap*.

The overlap between linguistic and visual representation generates a strong ideational intermodal convergence. From a narrative perspective, the intermodal convergence functions to place the player, as Detective Prospero, into the fantastical narrative that Ethan has created by experiencing the short story first-hand. Once the player realizes that Detective Prospero is a figment of Ethan’s imagination, this type of story-playing takes on new significance, as the player is essentially playing Ethan’s writing process. In terms of game mechanics, the visual intermodal complementarity works as a heuristic device, but only if the player notices the pattern (game literacy).

After reading the short story and re-entering the “real world,” the new visual intermodal complementarity allows for players to unpack other meanings in the short story, and consequently the emotional outcomes of a real situation. The cataphoric lexical items are represented first linguistically (“Saft / *Sap*), then visually (beer bottles, fire pit). Although the linguistic appearance is characterized in a fictitious manner, the visual representation is presented as concrete and real-world. For example, the man in “Saft” / *Sap* drinks and tries to distract from his actions, indicating his shame and greed for the activity. After the player sets down the paper and reads the dialogue between Ethan and

Ed, the visual field resolves onto the ground at the base of a tree covered with empty beer bottles.

In addition to the convergence between the linguistic and visual modalities, the cataphoric lexical items create a bridge to the real-world artifacts that follow (see Figure 3 for the genre mechanics). To illustrate, “das Feuer” / *the fire* and “der alte Mann” / *the old man* link the short story to the visual environment and then again to the newspaper article about the “HAUSBRAND” / *HOUSE FIRE* (Image 8), thereby creating intermodal cohesive ties that bind the texts and visual elements together via the allegory of the short story through visual representation and linguistic reiteration.

Image 8: Reflexive visual intermodal complementarity for “Saft” / *Sap*.

Fire and *death* are thematized throughout the chapter, both linguistically and visually. It is also noteworthy that in a game almost completely free of non-player characters, the only visual representation of Ed comes in the form of his picture in the article about his wife’s accidental death at his hand and the family picture discovered in an abandoned house. A summary of the intermodal complementarity meaning-making resources is presented in Table 9.

Visual Element	Linguistic Element	Convergent / Divergent	Metafunction
Forest	"Wald" / *forest*; "Bäumen" / *trees*; Red Creek Valley	Convergent visual → text	Ideational & Textual
Traps	"vielen gefährlichen Fallen" / *many dangerous traps*	Convergent visual → text	Ideational & Interpersonal
Bones	"die Knochen" / *the bones*	Convergent visual → text	Ideatinoal & Interpersonal
Bottle	"trinken" / *to drink*; "Saft" / *sap*	Convergent text → visual	Ideational
Fire pit; burned newspaper	"Feuer" / *fire*; "Brand" / *fire*; "Glutnester" / *hot spots*	Convergent text → visual → text	Ideational
Picture of Ed	"der alte Mann" / *the old man*; "Edwin (62)"	Convergent text → visual → text	Ideational & Interpersonal
Visual focalization – 1st person	Linguistic focalization – 3rd person	Divergent visual → text	Interpersonal
Color hues – realistic → grey/blue	Use of past tense; emotional language	Convergent visual → text	Textual

Table 9: Summary of intermodal complementarity

The high level of intermodal convergence is significant, particularly in ideational meanings, for the enactment of gameplay mechanics by having the player experience parts of the short story prior to reading it. Knowing that the story is fictitious points to the delusion of gameplay and Detective Prospero as an unreliable narrator, only revealed in

the final scenes of the game. This is particularly evident in the visual versus linguistic focalization. The first-person perspective of the camera is at odds with the linguistic orientation of the texts, which use third-person singular pronouns to report events, creating intermodal distance appropriate to the role of the player's avatar.

This effect of such strong convergence creates a subtle, yet tight-knit web of multimodal connectivity. The lexical and multimodal cohesion weaves together the gameplay mechanics of solving the puzzle, the narrative-driven short story, and the post-puzzle scene that unpacks the familial strain and experiences that lead to Ethan's isolation and untimely death. Ultimately, the combination of lexical cohesive ties and intermodal complementarity reinforces the chapter as a single cohesive semiotic unit. These kinds of connections are not unusual in digital games. However, to be successful, the player must be able to accurately read the game environment, including intermodal complementarity features.

The lexical and multimodal cohesion analyses have demonstrated how linguistic and visual semiotic resources produce strong intra- and inter-chapter cohesion. This structure facilitates a narrative that supports gameplay mechanics of a detective-mystery game while simultaneously conveying narrative-rich information to the player, which they must then piece together before finding Ethan.

CONCLUSION

The analyses presented in this chapter illustrate the textual qualities of *The Vanishing of Ethan Carter* as a multimodal ensemble by highlighting how the game organizes information. From a holistic perspective, the genre analysis identified how

gameplay mechanics organize two competing narrative threads around situated tasks for the player to complete—solving puzzles and investigating murders. In addition, the compulsory chapters featuring different members of Ethan's family (i.e., puzzles) work to expand the player's knowledge of Ethan's relationships with those family members through an orbital genre structure that feeds information into the nucleus of the story.

The lexical cohesion analysis showed how salient themes, such as *writing*, *fire*, and *hidden / missing*, tie together otherwise generically disparate texts (i.e., a fictitious short story, a conversation, and real-world artifact) within a chapter as a semiotic unit. Although brief, the examples illustrated how such themes offer a level of cohesion between different chapters. Relatedly, the intermodal complementarity analysis revealed how the gameplay mechanics of solving chapter puzzles prepares the player for related short stories they discover. The lexical items appearing in these short narratives either point reflexively to the puzzle previously solved or point forward to the texts to follow, which are also reinforced visually.

The results of the analyses demonstrate the game's textual patterns and the potential meaning-making resources made available to the player. However, in the end, it is up to the player and their ability to "read" the digital game environment and patterns, beyond the linguistic texts. This style of "reading" and meaning-making resonates with the concept of multiliteracies in that the game *designs* meanings and opportunities for interacting with those *designs* for the player. In the next chapter, I explore the gameplay experience of L2 learners of German and analyze their interactions and literacy practices as they engage with *The Vanishing of Ethan Carter*.

Chapter 5

Gameplay Analysis

In the previous chapter, three complementary analyses of *The Vanishing of Ethan Carter* (The Astronauts, 2014) were presented: (1) generic organization of narrative information, (2) lexical cohesion across texts, and (3) and intermodal cohesion between the visual and linguistic semiotic resources. The analysis of *The Vanishing of Ethan Carter* was based on an idealized version of the game—one in which the player is aware of and has full access to the full spectrum of the game's information. The idealized game only truly exists theoretically; once a new player interacts with the game, information becomes emergent as a product of player agency. In other words, the game exists as a perfect system until a player engages with it. Within the system, innumerable meaning potentials exist, but after a player takes control, the available meanings become concrete as the player reads the environment and construes meaning from it. Both orientations represent complementary perspectives on the gameplay experience—the idealized game as meaning potential and player engagement as accessing those meanings.

Much of the previous research on DGBLL has prioritized language gains, such as vocabulary acquisition (deHaan et al., 2010; Miller & Hegelheimer, 2006; Ranalli, 2008) or communicative competence (Zheng et al., 2009). Few have explored gameplay as a

combination of multiliteracy practices that require players to navigate and negotiate a variety of meaning types, respond appropriately, or adjust and try again (Gee, 2007). By understanding the complexities surrounding learners' gameplay and literacy practices, pedagogues are in a better position to incorporate games meaningfully into the L2 classroom. Developing a deeper understanding of digital games from a literacy perspective requires, in part, a consideration of game and text difficulty, the gap between time-on-task and linguistic payoff, and the potential for games to create opportunities for collaboration in the balance of cognitive load.

This chapter investigates the gameplay process of L2 learners of German as they engage with *The Vanishing of Ethan Carter*. To develop an understanding L2 learners' gameplay experience as a literacy practice, two research questions are posed:

1. What are the patterns of communication during narrative puzzles and how does communication facilitate puzzle solving and textual engagement?
2. How do the supplementary materials—transcripts and walkthrough videos—mediate learner dyads' gameplay experience as literacy practice?

The goal of the gameplay analysis is to begin to define L2 learners' literacy practices by adopting multiple perspectives on the gameplay process. Much like the game's orbital genre structure, I hypothesize that learners' gameplay and literacy practices are not linear, but rather that gameplay requires movement between different cognitive tasks (Leander & Boldt, 2013). Before answering the research questions, I first provide a brief description of the semiotic events and offer an explanation of their relative difficulty to provide context for interpreting the results of the analyses.

GAME CHAPTER OVERVIEW

As discussed in Chapter 4, the orbital genre structure of the game allows for players to experience chapters or semiotic events in various order. Each chapter offers players background information about the Carter family and their history. However, in order to glean the information, players must typically complete a puzzle thematically related to the short story they find as a reward. The puzzles they encounter are of varying difficulty and require a variety of elements to complete. The difficulty of each chapter is likely to have a significant effect on the time investment required for learners to get to the linguistic payoff at the end of the chapter, which carries the narrative weight of the game. In this section, I provide an overview of the tasks learners are asked to complete for each puzzle and an outline of the relative difficulty of each game section.

As a review, *The Vanishing of Ethan Carter* is comprised of five compulsory narrative puzzles or chapters. Each puzzle corresponds to one of Ethan's five family members: Missy (mother), Dale (father), Travis (brother), Ed (grandfather), and Chad (uncle). For the purposes of this research, only the difficulty of the puzzles is explored, as these puzzles convey the majority of the larger storyline. Table 10 presents a summary of the puzzles, what they require to be solved, and their relative difficulty.

Puzzle	Difficulty	Requirements to Solve
Hexenwald (Missy)	1	Cross trip line
Raumkapsel (Travis)	2	Locate light puzzle; enter code; chase astronaut
Fallen (Ed)	2	Locate five traps
Haus der Portale (Chad)	3	Recreate house; three attempts
Alter Gott (Dale)	4	Locate five corpses, solve shape/symbol puzzle

Table 10: Summary of puzzles and their difficulty.

To determine the relative difficulty of each narrative puzzle, several factors were taken into consideration, including the number of steps players must complete to solve the puzzle. For instance, some puzzles only require the player to cross an invisible trip line that then initiates the chapter. Conversely, other chapters require the player to find multiple items to gain access to the storyline information at the end of the narrative chapter. To demonstrate, to solve Missy's puzzle, "Hexenwald / *Witch's Forest*, the player need only cross into the chapter zone, even unknowingly, which prompts the color scheme to shift to grey and initiates a series of philosophical questions. The game does not provide a mechanic to even answer the questions; the player must simply keep moving until the scene ends and reveals a "hut" in the woods (Image 9).

Image 9: Missy's puzzle.

The other four puzzles contain more difficult elements. Beginning with Travis, ranked as the second easiest to complete, the player must locate a small control tower with four lights on it. When the player clicks on the lights in a certain order, where red is false and blue is correct, a window opens to reveal an astronaut standing face-to-face with the player. The astronaut turns around and runs into the woods with a swell in music, prompting the player to give chase. Each time the player attempts to approach the astronaut,

they turn and run, repeated 10 times. After the final chase, an explosion can be seen and heard and a spaceship with a light beaming down to the ground is revealed. The astronaut enters the light, prompting the player to follow. The player is then taken up into the spaceship where they find "Fangzähne" / *Fangs* (Image 10).

Image 10: Travis' puzzle.

Similar to Travis' puzzle, "Raumkapsel" / *Space Capsule,* Ed's puzzle, "Fallen" / *Traps,* requires the player to find puzzle components that are hidden. For Travis, the player must find only one item to initiate the puzzle, while for Ed, the player must find five traps hidden in the forest within a relatively small area; three of the five traps are found close to the train tracks. The puzzle composition of finding hidden pieces makes Travis' and Ed's puzzles similarly difficult. Conversely, Chad's puzzle, "Haus der Portale" / *Portal House* employs an entirely different mechanic than the hide-and-seek used for Travis and Ed. In this puzzle, the player enters a house to find a note on a table next to the front door. Upon reading it, the player activates an invocation that creates portals in the house's doorways. After entering the first portal (read: doorway), the player has essentially been transported to the house across the drive, although this is not immediately evident to most players. From there, the player must approach all doorways in the house and select from three

options of different rooms with the goal of reconstructing the house and its rooms (Image 11). In all, there are 11 rooms to be reset, but some can be approached from multiple angles, changing the optics for the player. If the player selects incorrectly three times in a session, they are kicked out to the beginning, where they must re-read the invocation next to the front door to initiate the puzzle again.

Image 11: Chad's puzzle with invocation and portal doorway.

Despite the multiple steps involved in solving Chad's puzzle, the possibility to revisit the model house ad infinitum offers players a type of built-in scaffolding as a part of the game's *design grammar* (see Gee, 2007 discussed in Chapter 2). The final puzzle, however, offers no such help. For Dale's puzzle, the player must enter the mine through a hidden tunnel. Eventually, the player is able to follow a set of tracks meant for a mining car until they reach a tunnel with a flickering light. The exit takes them deeper down into the mine where they come upon a wooden doorway with a note nailed to it, warning the player to go no further. On the other side of the doorway is a maze with five corpses spread between the different hallways. The goal is for the player to locate the corpses and "investigate" them. Upon investigating the body, a kind of ghost light exits the corpse and leads the player to an open room with a raised platform and a gate. This "hide-and-seek"

mechanic resembles that of Ed's and Travis' puzzles, with one major difference. In Dale's maze, a zombie miner patrols the corridors, creating an active countermeasure to the player's ability to search for corpses. If the miner catches the player, they are taken back to the maze's entrance. The combination of environment, content, and music creates an anxiety-inducing atmosphere for the player. The result is particularly effective, as up until this point in the game, the player has not encountered another moving being with which they are able to interact in some fashion.

In addition, finding the corpses does not end the puzzle, but rather provides the clues for solving the true puzzle at the end. After finding all the bodies, the player must identify the shapes the corpses create and the symbols on which they are standing, then enter the information on a gate, adding yet another level of difficulty. Finally, the game does not tell the player that there are five bodies to be found, and the gate requires six symbols. The sixth symbol can be found at the base of the platform, on a scrap piece of paper. While the game does draw attention to the scrap of paper by highlighting "Lesen" / *Read* and the symbols are highlighted at the top of the page, the distance from the gate and the likelihood of finding it before approaching the gate puzzle significantly reduces the saliency of the clue. Alternatively, the player can click through the options for the sixth symbol until they have found the right one, given that the other five have already been set correctly (Image 12).

Image 12: Dale's puzzle in mine maze.

The genre design in *The Vanishing of Ethan Carter* with its lack of sequentiality, combined with a range of puzzle mechanics and an absence of signposting to guide the player creates an environment that facilitates different gameplay styles[1] and outcomes. For the L2 dyads who participated in this research project, the order of gameplay varied widely. Before discussing the four dyads who completed the game, I first present the entire participant field and the order in which they completed semiotic events.

[1] Here I operationalize the term *gameplay style* to refer to the way in which groups move through and interact with the game. The term can be likened to *learning styles*, which denote learners' preferences for learning through visual, aural, spatial, etc. input. For digital gameplay, players often have preferences for how they engage with the game. For example, to play for completion, for the storyline, for social interactions, etc. More research is needed to better understand and further define gameplay styles, particularly from a DGBLL perspective.

GAMEPLAY OVERVIEW

Table 11 displays the groups who logged at least one gameplay session. The columns represent each puzzle in the game—"Fallen, Raumkapsel, Portale, Hexenwald, and Alter Gott" are narrative chapters and "Travis, Chad, Missy, Dale, Ed, and Ethan" are death puzzles. The numbers signify the order in which the group completed the puzzle, with the first number standing for game session and the second for the order within that session.[2] To demonstrate, "Hexenwald" was the first and only puzzle Group A solved during their first gameplay session. During their second gameplay session, Group A managed to solve "Portale" (2.1) followed by "Raumkapsel" (2.2) but did not log a third gameplay session. The table reveals a distinct dividing line between those that finished the game and those that did not. For those who did not complete the game, they did not make it into the mine—a difficult entrance to find, particularly without having solved Chad's death. Indeed, only five groups managed to solve Chad's murder, at the end of which the player receives instructions on how to access the mine through a hidden tunnel. One of those groups logged a session after solving Chad's murder, but did not go into the mine, while one of the five groups did find the mine, though Dale's puzzle, "Alter Gott" / *Old God* was the last puzzle they finished and the group did not return for a fifth session.

[2] Only puzzles and deaths that were solved are marked, meaning if a group did not manage to solve a puzzle or death, there is no representation of that session in the table.

Course	Group	Fallen	Travis	Raumkapsel	Portale	Hexenwald	Chad	Missy	Alter Gott	Dale	Ed	Ethan
		Puzzle	Death	Puzzle	Puzzle	Puzzle	Death	Death	Puzzle	Death	Death	Death
612	A			2.2**	2.1	1.1						
612	B	4.2	2.1	4.1	3.1	4.3	5.1	5.2	6.1	7.1	7.2	7.3
612	C*	4.1		1.1	1.2	1.3	2.1	3.2	3.1	3.3	3.4	4.2
612	D	2.2	2.1		4.1	4.2	3.1					
612	E	1.1	2.1	2.2	3.1	3.2	3.3					
612	F	1.1		1.2	2.1	2.2	3.1		4.1			
612	G	2.2	2.3	2.1	3.1	3.2	3.3					
612	H*			1.1	1.2							
612	I*					1.1						
328	J	1.2	2.1	2.2	3.1	1.1	3.2	3.3	4.2	4.1	4.3	4.4
328	K	1.1	2.2	2.1	3.1	3.2	3.3					
328	L	5.2	5.3	5.4	5.5	2.1	2.2	4.1	3.1	4.2	5.1	5.6
328	M			1.1								
Mix	N	3.1	3.2	1.1	2.1	1.2	4.1	4.3	4.4	4.2	4.5	4.6

* Groups that played individually, not as part of a partner dyad
** First number = gameplay session; second number = order within gameplay session

Table 11: Progress through game for all groups.

PLAYER-CO-PLAYER COMMUNICATION PATTERNS

Playing digital games is an inherently social activity that encourages communication, either between players or between a player and the game itself. In some games, such as massively multiplayer online role-playing games (i.e., *World of Warcraft,* Blizzard Entertainment, 2004), communication is integral to players' success. Players must learn to communicate quickly and effectively in order to win battles and keep their avatars alive. Even single-player games, like *Skyrim* (Bethesda Game Studios, 2011), generate communication amongst players in online forums or amongst friends. In the DGBLL literature, studies have found that learners with more experience playing digital games are more willing to communicate in the L2 than those with less experience (Reinders & Wattana, 2011) and that communication often requires a level of negotiation that leads to in-game action (Zheng et al., 2009). In an attempt to expand the current DGBLL research

paradigm on communication, the present analysis treats verbal communication as one of many activities related to multiliteracy practices (Leander & Boldt, 2013); as a part of textual engagement, rather than a byproduct of a task.

By having participants engage with *The Vanishing of Ethan Carter* in pairs, the research design of this project facilitated the social aspects of playing digital games, while attempting to ameliorate cognitive load and encourage discussion about participants' gameplay experience. Participants were not explicitly directed to speak German or English. For the purposes of coding for communication during gameplay sessions, I operationalize the term *utterance*, which is defined as a turn-at-talk or framed by a pause of silence (Sidnell, 2010). In the next section, the dyad communication patterns during the narrative chapter "Fallen" are presented. In particular, the relative utterance frequency is investigated in relation to the time on task and transcriptions of those interactions are discussed.

Research Question #1: What are the patterns of communication during narrative puzzles and how does communication facilitate puzzle solving and textual engagement?

The first gameplay analysis offers an overview of communication trends between the player, who controlled the avatar in the game, and the co-player, who controlled the auxiliary laptop with the walkthrough videos. The analysis compares the emergent communication patterns[3] within the narrative chapter "Fallen."[4] The working hypothesis posits that groups' utterances per minute increase as a result of solving the puzzle and interacting with the subsequent linguistic texts that convey the most significant narrative information. In addition, transcripts of player-co-player interactions are provided to explore the content of their utterances.

[3] For the purpose of this analysis, communication patterns are presented as utterances per minute to represent the density of chatter between player and co-player.

[4] "Fallen" was selected because it was the subject of the game analysis and the thematic analysis of player-co-player interaction (see RQ#2).

Group B

Group B consisted of learners registered in the intermediate German course (German 612). In the pre-study questionnaire, the player marked themself as a "skilled" gamer but played digital games zero hours per week. The co-player self-identified as a "casual" gamer, but also did not claim to play digital games on a weekly basis. Of the genres that both the player and co-player reported to enjoy playing, they leaned towards games with a strong narrative component and aspects of puzzle-solving, such as action-adventure games (i.e., *The Legend of Zelda: Ocarina of Time,* Nintendo, 1998) and sandbox role-playing games (i.e., *Skyrim*, Bethesda Game Studios, 2011), which resonate more strongly with *The Vanishing of Ethan Carter* than first-person shooters or sports games.

Based on observational data, Group B was methodical in their exploration of the game world, taking their time to explore zones carefully. In addition, when they discovered a puzzle or death, they made an effort to solve it without assistance from the walkthrough videos. When they encountered a puzzle, their discussions were focused on creating and testing hypotheses, with the player often bringing their previous experience with digital games into the conversation. They exhibited a high level of emotive language and reactions. Group B completed the game in seven gameplay sessions and played for a total of 405 minutes or approximately 06:45:22.[5] Over the course of all seven sessions, the player made 1,852 utterances (averaging 4.57 per minute) while the co-player spoke 1,045 times (averaging 2.58 per minute). Figure 5 summarizes the total communication patterns by narrative chapter.

[5] Times are given as hh:mm:ss.

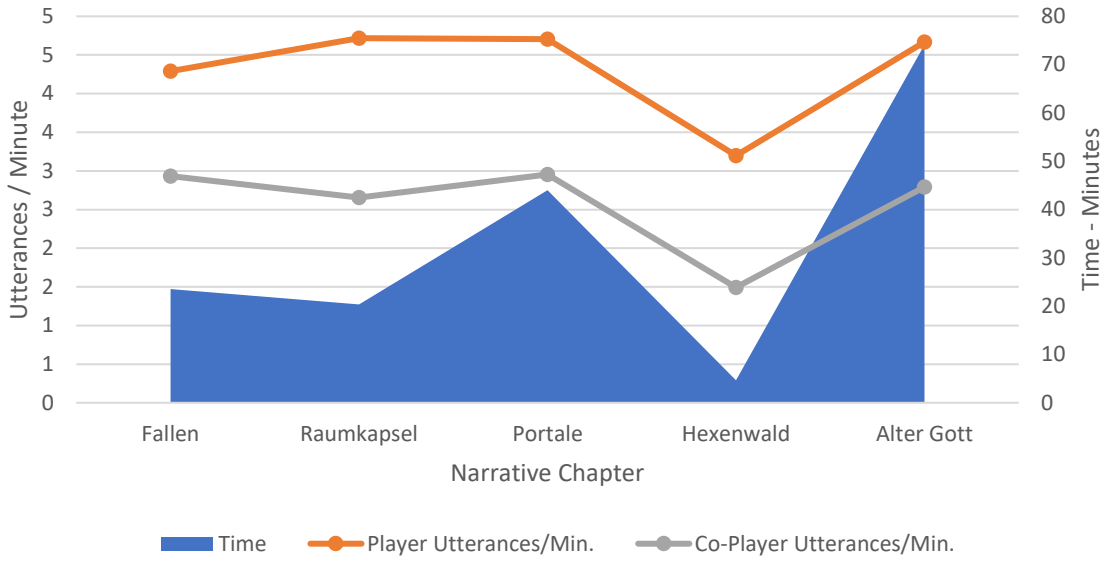

Figure 5: Group B's utterance count per minute across narrative chapters.

Figure 5 summarizes the dyad's time in each narrative zone, as well as their utterance count per minute. As shown in the figure, "Alter Gott," took a significant amount of time to solve, yet does not represent the most frequent utterance count per minute. This is likely because the task of locating the bodies in the mine became monotonous and led to longer pauses between turns-at-talk, evidenced by the spike in time spent in the "Alter Gott" zone. Conversely, "Hexenwald" elicited the lowest utterance count per minute from both the player and the co-player (player = 3.20/min.; co-player = 1.49/min.). The analysis now turns to "Fallen" (Figure 6) for a more fine-grained look at Group B's experience in solving the narrative puzzle. The figures display each time the group entered the zone in question and if entered multiple times during the same session, in what order. Additionally, the figures show whether the group accessed the walkthrough video (~) and the session in which the puzzle was solved (*).

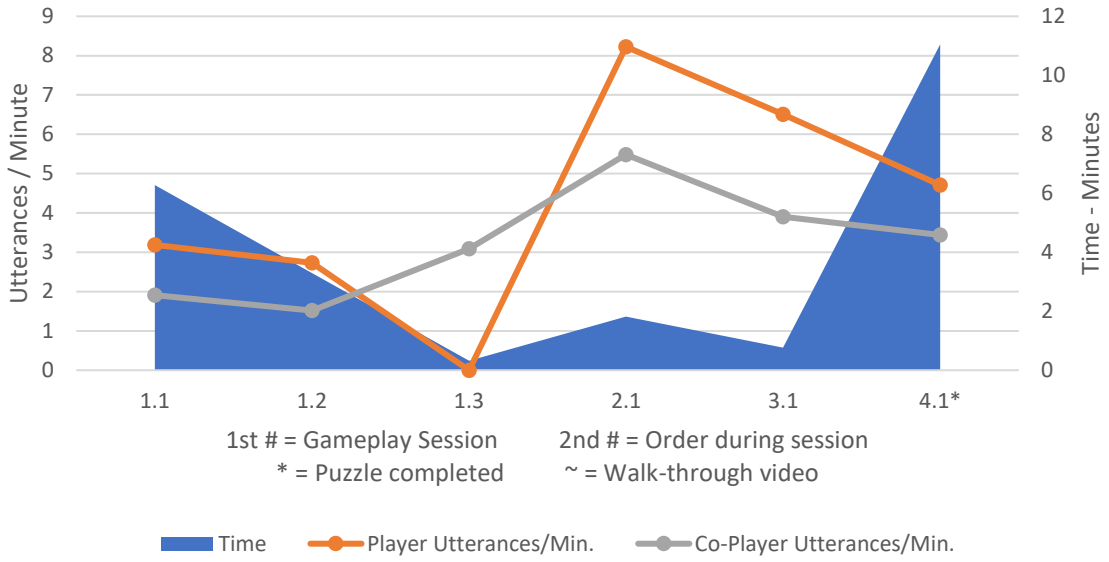

Figure 6: Group B's utterance count per minute for "Fallen."

Group B entered the "Fallen" narrative chapter six times during their seven gameplay sessions. As Figure 6 shows, the group spent the most time in the zone in their first and last encounters. During the first gameplay session, they entered "Fallen" three times; however, on the third occasion, they spent only 00:00:19 there and the co-player made only one utterance during that time (3.09 per minute). It is noteworthy that when the time spent in the zone was low but the utterance per minute count high, there was a high density of chatter. That, however, does not necessarily mean that the participants produced a significant amount of talk. Indeed, Group B began their second gameplay session in "Fallen" and only remained in the zone for 00:01:49 as they located the traps they had found in their first session. During that time, the player made 15 utterances and the co-player made 10 for an average of 8.23 and 5.48 utterances per minute respectively with discussion largely focused on planning where to go first in the game world. This accounts for the increase in the player's and co-player's increased turns-at-talk over the short period of time.

In contrast, the rise in time spent in the zone suggests a level of engagement with the puzzle and, once completed, with the following narrative texts. During Group B's fourth gameplay session, they spent 00:11:03 in the "Fallen" zone and were able to solve the puzzle and reach the narrative texts. Of the occasions in "Fallen" when the dyad spent more significant time in the zone, the player and co-player took the most turns-at-talk during their final visit, when they solved the puzzle. The player talked 52 times and the co-player 38 times averaging 4.71 and 3.44 utterances per minute respectively. The data suggest that solving the puzzle and gaining access to the narrative texts generates a higher density of talk between partners, which will be explored further below.

During Group B's previous experience in "Fallen," they had discovered four of the five traps necessary to complete the puzzle. Upon their return in their fourth session, they quickly re-located those traps:

```
005     P:    Alright.
006           (4.0)
007     P:    I'm finding all these deadly traps again.
008           (19.0)
009     P:    Not gonna lie, that made me jump.
010           (11.5)
011     P:    Great. And two.
012           (3.5)
013     Co:   And the other two are on the other side.
014           (5.0)
015     P:    Over here some place.
016     Co:   Yeah.
```

Excerpt 1: Group B enters the "Fallen" zone.

The player quickly oriented himself to the task at hand ("Alright"), understanding the goal—"I'm finding all these deadly traps again" (line 007). After a 19-second gap in utterances, the player re-located their first trap, causing them to jump (line 009). The player found the second trap more quickly, verbally acknowledging the count (line 011). The co-player then contributed their knowledge of the location of the third trap "on the other side

[of the train tracks]," prompting the player to move their avatar that direction and getting confirmation on the location (line 015), which the co-player endorsed. In Excerpt 1, the player and co-player, co-constructing knowledge, were able to quickly locate two of the five traps they had found previously and moved toward the other two traps. Their use of deictic markers, such as *that* (the trap being sprung) and *here* (the location of the avatar and view of the camera) suggest a strong orientation to visual resources in the game world. Excerpt 2 shows the interaction immediately following Excerpt 1.

```
018  P:   There's one. So glad we don't have to take damage in this game.
019       **laughs**
020       (1.5) **Co smiles**
021  P:   We'll reserve that for the other games.
022       (12.0)
023  P:   [There should be one more just as obvious as those were.]
024  Co:  [                  ((inaudible))                        ]
025       (2.0)
026  Co:  Um...
027  P:   Yeah, cause they're connecting. Grr.
028       (6.5)
```

Excerpt 2: Group B and the player's display of game literacy.

After crossing the railroad tracks, at the recommendation of the co-player, the player quickly found their third trap, "There's one" (line 018). They then commented on the game mechanics and not being injured ("taking damage") and that they will "reserve that for the other games" (lines 018-021). Their mention of other games and the use of the phrase *to take damage* is indicative of the player's previous experience playing different digital games, as well as their ability to relate that experience to the present context. Following a 12-second pause, the player found their fourth trap, but did not verbally mark it in the same way as the first three. Instead, they commented on the ease with which they

should be able to find the final trap as "just as obvious" (line 023).[6] In lines 025-028, the player investigated the fourth trap and noticed that the pieces of the window were "connecting," thereby displaying a level of game literacy vis-à-vis the puzzle mechanics and an understanding that they still needed to find a fifth trap (Excerpt 3).

```
031  P:   I wonder if these traps were set for our character here.
032  Co:  Oh, that's it. Okay.
033  P:   Finally. **laughs**
034       (6.0)
035  P:   Oh!
036  Co:  What?!
037  P:   [ Oh! ]
038  Co:  [Wait,] what?! **smiles**
039  P:   [   Wonder]ful. This looks like a worksite for me. **laughs**
040  Co:  [Is that… ]
041  Co:  Okay...that's...
042       (1.5)
043  P:   Phenomenal.
044  Co:  **laughs** Alright.
```

Excerpt 3: Group B finds the fifth trap.

The fifth trap in the "Fallen" puzzle is more hidden than the other four, which are located near the railroad tracks. Group B searched silently for their final trap but managed to find it and commented on by the co-player, "Oh, that's it. Okay" (line 032). During the six-second pause in line 034, the player investigated the trap and completed the window, which opened to the parallel world and led to exclamations from the player ("Oh!" in line 035) and the co-player ("What?!" in line 036). Their surprised reactions were in response to the bones and skulls that litter the ground in the parallel zone. The bones are one of the anaphoric visual cohesive devices mentioned in the short story, "Saft" / *Sap,* after the fire that burns the village to the ground and leaves "nur noch die Knochen" / *only the bones* of the villagers behind. Group B oriented themselves to the visual salient feature and the

[6] After the player finds a trap, it must be *investigated*, which opens a window to a parallel world—a copy of the one the player is in. Each trap contributes a new piece to the window until all traps have been discovered and the window has been completed.

player related the sight externally to their work. As the group moved forward, they discovered the narrative text at the base of a tree and proceeded to read (Excerpt 4).

```
053  P:   Saft. Natürlich. ((**Looking at bottles on ground**))
054  Co:  Mhm.
055       (36.0)
056       ((**Picks up article; open for 1:18.0; both read from screen**))
057  P:   **humming**
058       (45.0)
059  P:   Yeah.
060  Co:  Mmm.
061  P:   Yeah, this would have been really nice to have earlier. **laughs**
062       ((**P moves mouse in tight circles around fire pit**))
063       (3.0)
064  Co:  Yeah.
065  P:   Cigarettes.
066       (6.0)
067  P:   So, this...this...was just a story written by Ethan, right?
068  Co:  I think so.
069       (3.0)
070  Co:  [Um...and there was-
071  P:   [And I guess that the juice was alcohol.
072       (2.0)
073  Co:  There was fire in the Carter's house. Was it?
074  P:   Right, which is what we did over in chapter four.
075  Co:  Yeah.
076  P:   We went through there.
077  Co:  Yeah.
```

Excerpt 4: Group B interacts with linguistic texts in "Fallen."

Group B read through the short story and the subsequent dialogue between Ethan and Ed, presented on a black screen, which then faded in on the base of the tree. The player commented in German, looking at the bottles lying next to the short story saying, "Saft. Natürlich" / *Sap. Of course* (line 053). Their utterance appears to relate the title of the short story, "Saft" / *Sap,* to the visual environment by focusing on the empty bottles. The empty bottle represents another visual cohesive device, referring back to the short story and hinting forward to Ed's depression as a result of his wife's passing conveyed in the newspaper article. The co-player acknowledged the player's utterance (line 054) before the player moved to pick up the article in the fire pit. After reading the article and setting it

down, the player noticed the cigarette packs on the ground (065) and clicked the mouse to zoom in on them. The cigarettes are another visual cohesive device, pointing backward to the article which mentions Ed falling asleep with a lit cigarette in his hand as the cause of the housefire that killed his wife. Although the player did comment on their presence, it is unclear whether they connected the cigarettes to the article or to the fire in the "Saft" text. In line 067, the player posited that the story was "written by Ethan, right?" The co-player hedged saying "I think so." This is the first time they comment on Ethan's authorship of the stories, despite having solved two other puzzles prior to "Fallen."

The player also made the connection between "Saft" / *juice*[7] and alcohol in line 071 and remarked later on the "empty booze bottles*"* (not seen in Excerpt 4). This demonstrates their ability to relate the linguistic text to the visual environment. The co-player's reference to the Carter housefire mentioned in the newspaper article was taken up by the player, who confirmed they had already dealt with that puzzle "in chapter four" (line 074). Their short exchange suggests both the player and the co-player were able to collaboratively connect narrative information across disparate chapters through a combination of visual cues and linguistic texts.

Group J

The participants in Group J were registered in a lower-advanced German course (German 328) during the study. Regarding gaming experience, the player classified themself as a "beginner" gamer, playing digital games one to two hours per week. The co-player, meanwhile, identified themself as a "casual" gamer who plays three to five hours on a weekly basis. Both player and co-player indicated their interest for the shooter and

[7] It should be noted that "Saft" in German has two translations in English—*juice* and *sap*. In the short story in "Fallen," *sap* is a more appropriate translation; however, *juice* is more likely to be known by the L2 learners.

sports genres and different classes of role-playing games. During their gameplay sessions, the player and co-player showed a level of comfort, both in navigating the controls, as well as the mechanics and narrative elements.

Group J's gameplay style involved them moving quickly through zones and when there seemed to be nothing to see or do, continuing forward. Only after reviewing the transcripts and accessing the walkthrough videos did they retrace their movement to attempt to solve puzzles they had passed. In fact, the group developed a method of gameplay that involved watching the walkthrough video, moving to that zone, then using the video to solve the puzzle step-by-step, rather than attempting to problem-solve on their own.[8]

Group J logged four gameplay sessions, taking a total of 239 minutes (03:59:00) to complete the game. The player's total utterance count was 876 (3.67 per minute) and the co-player made 990 utterances (4.14 per minute). Figure 7 summarizes their average utterances per minute according to narrative zones.

[8] This approach is neither good nor bad, but simply a different style of gameplay. The group found the necessary texts and read them on their own, making the end-goal the same.

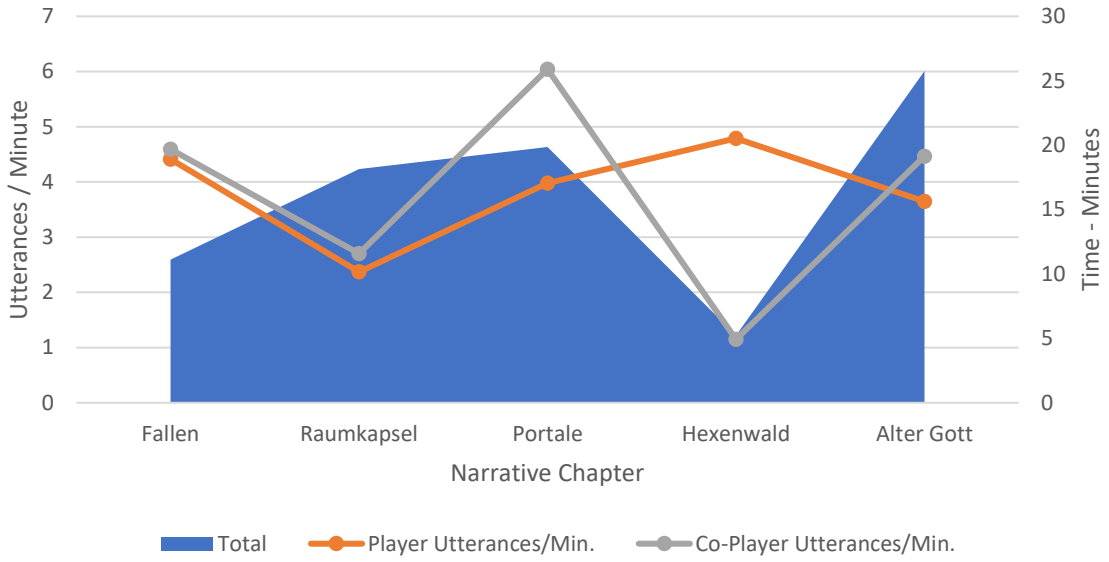

Figure 7: Group J's utterance count per minute across narrative chapters.

Similar to Group B, Group J spent the most time in the "Alter Gott" zone and the least in the "Hexenwald" zone. Unlike Group B, however, the co-player in Group J tended to speak more than the player, except for in "Hexenwald," which the dyad found in their first session before making use of the walkthrough videos as a guide. Once they began using the walkthrough videos, the group went back to the "Fallen" zone, at which point the co-player started giving step-by-step instructions, thereby increasing their utterance count. The group's experience in the "Fallen" zone is presented in Figure 8.

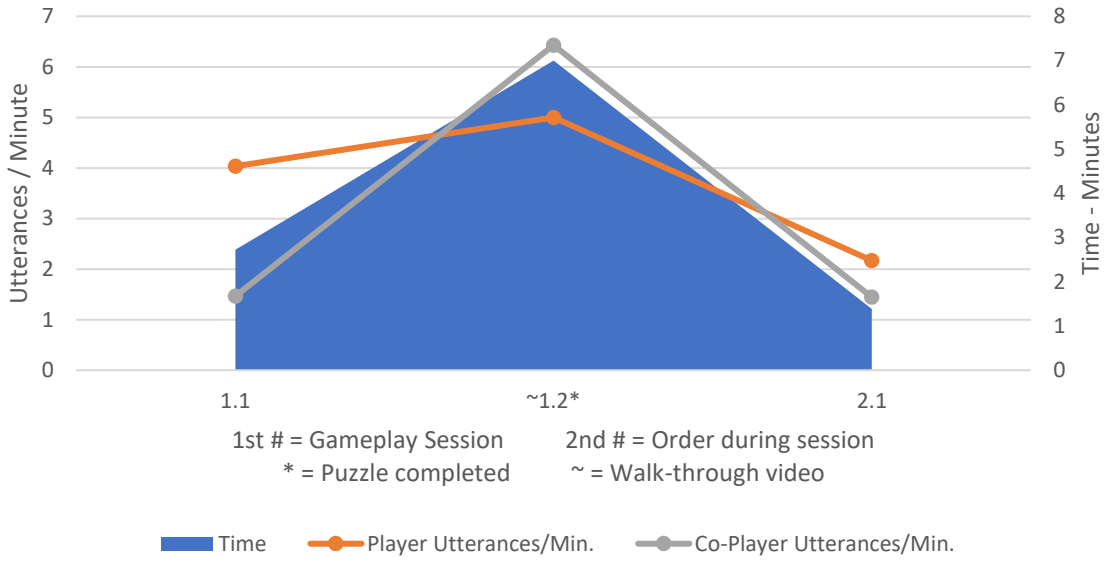

Figure 8: Group J's utterance count per minute for "Fallen."

Group J only entered the "Fallen" zone three times over the course of their four gameplay sessions. The first time, upon beginning the game, the dyad spent only 00:02:43 there. The player made 11 utterances (4.03 per minute) and the co-player made only four (1.47). During the same session, after realizing via the walkthrough video that they had missed information, the group returned to "Fallen" and spent 00:07:00 there solving the puzzle. As they located the traps, the co-player spoke 45 times, averaging 6.43 utterances per minute, compared to the player, who made 35 utterances for an average of five per minute. Once again, the process of finding the traps and receiving the narrative texts afterwards corresponds to an increase in utterance density. Group J's final occasion in the "Fallen" zone came at the beginning of their second gameplay session. That is where their session began and they quickly moved to the adjacent zone, spending only 00:01:23 discussing their plan of action for the session. Group J's visit to "Fallen," in which they solved the puzzle, is characterized by their use of the corresponding walkthrough video as a guide to the location of each trap. Their use of the walkthrough video led to different

discourse patterns from Group B, who did not use the walkthrough video. The differences manifest in the co-player relaying directions to the player, as seen in Excerpt 5:

```
015  Co:  Then over to your right.
016       (5.0)
017  Co:  Okay
018       (8.0) ((**Co looks at WTV**))
019  P:   Get us back on track?
020  Co:  Yeah, but there's two more.
021       (8.5) ((P stops to watch WTV**))
022  Co:  Back to the tracks. ((**points with left hand at screen**))
023       (4.0)
024  Co:  And keep going down 'em.
025       (1.0)
026  Co:  It's past the rocks.
027  P:   These rocks?
028  Co:  Those...up there. ((**points with left hand again**))
029  Co:  Oh, yeah, got it.
```

Excerpt 5: Group J co-player gives directions to player.[9]

Prior to the excerpt, Group J had found their second trap. The co-player then walked the player through the digital world in search for the third trap. In line 015, the co-player prompted the player to move "over to your right" where they was able to find the third trap, followed by a pause as the co-player watched the next part of the walkthrough video. During another pause, the player stops play entirely and watches the video with the co-player, who then points the player "back to the tracks" (022) and to "keep going down [th]em" (024). Excerpt 5 demonstrates how the player and the co-player, although still engaged with the activity, often brought gameplay to a complete halt as they referenced the walkthrough video. This break away from actual play represents a type of planning period in preparing for the next step in their gameplay and contributes to their overall literacy engagement, albeit in a different form. In addition, the co-player relied heavily on visual and gestural semiotic resources to lead the player to the traps, often referencing salient

[9] WTV in the transcript refers to "walkthrough video."

visual features (“the tracks” in line 022, “the rocks” in line 026) verbally and physically. In response, the player made frequent confirmation checks throughout their puzzle-solving experience (e.g., “These rocks?” in line 027). Similar to Group B, the use of deictic markers such as *these* and *those* is indicative of the dyad’s strong orientation to visual resources.

The dyad struggled to find the fifth trap, still making use of the walkthrough video, but eventually managed to locate it. After entering the parallel space, they believed the task had been completed and did not immediately find the short story at the base of the tree. If the dyad noticed the bones on the ground in the parallel space, they did not comment on it and began to move toward the zone’s exit. The co-player chose to check the walkthrough video again, to ensure they had finished the chapter and discovered their error, leading them back to the text (Excerpt 6).

```
101   Co:   ((inaudible)) ((**Co looking at transcripts**)) There we go. Found
102         Ed.
103   P:    Yeah.
104         (3.0)
105   Co:   ((inaudible))
106         (3.0)
107   P:    Later ((**reading später from screen**))
108         ((**both read dialogue from screen**))
109         (8.0)
110   Co:   I guess that's his juice.
111         ((** looking at bottles next to short story**))
112         (3.0)
113   P:    Probably water.
114   Co:   **laughs**
115         (4.5) ((**Co looks at WTV**))
116   P:    Oh ((**S sees other text in fire pit**))
117         (7.0) ((**Text open for 1:14.0; they don't look at other side**))
118   Co:   ((inaudible)) ((**Co looking at transcript**))
119   P:    ((**reading under his breath from screen**))
120         (3.0) ((**Co reads from transcript; P reads from screen**))
121   Co:   We got everything then.
122   P:    Yeah. **laughs**
123   P:    **laughs** So then it says ((inaudible)) found damaged in a fire.
124         ((**P translating article from screen under breath**))
125         (43.0)
126         ((**Co watches WTV; P clicks out of article, clicks in for
127         English**))
128   Co:   ((inaudible)) ((**Co looking down at WTV**))
129   P:    Yup. ((**P moves avatar toward Zone 2**))
130         (12.0)
131   Co:   ((inaudible)) ((**Co looking down at WTV**))
132   P:    Do we want to watch the second one?
```

Excerpt 6: Group J engages with the linguistic texts in "Fallen."

Excerpt 6 begins after the group found and read "Saft" / *Sap.* The co-player, who read the dialogue between Ethan and Ed from the transcript before it had appeared on the main screen, mentioned finding Ed (line101), which is confirmed by the player. Upon finishing the dialogue (lines 103-109), once the screen had resolved on the short story at the base of the tree, surrounded by the empty bottles, the co-player commented on the bottles, saying "I guess that's his juice" (line 110), thereby linking the lexical item "Saft" / *juice* in the short story to the visual environment. The player followed up, "Probably water," which was taken up as a joke by the co-player, marked by laughter. This exchange is their only reference to the embedded multimodality of the narrative scene. They then moved on to reading the newspaper article, part of which the player translated, "found

damaged in a fire" (line 123), before deciding to move on without further comment on the textual significance of the narrative scene. Compared to Group B, Group J spent very little time collaboratively interacting with the narrative components of "Fallen." This may be attributable to their gameplay style, which seemed to be more focused on task completion than on narrative engagement.

Group L

The members of Group L were both recruited from the same lower-advanced German course as Group J (German 328). Both the player and the co-player characterized themselves as "casual" gamers. However, the player responded that they did not play digital games during the week and the co-player marked three to five hours as their typical weekly engagement with games. Although the player had previous experience playing digital games, they was uncomfortable with the PC controls and often struggled to move the avatar around the digital space. Both participants responded that they enjoy platform games (i.e., *Super Mario Bros.*, Nintendo, 1985), shooters, and music games.

Their gameplay experience was unique in that the co-player's first partner dropped out of the study after one gameplay session together. Rather than also dropping out of the study, the co-player found a new partner in her German course. The co-player would often communicate knowledge they had gained with their previous partner to the new player during their sessions, although was not able to remember many details from the first configuration. Their gameplay style is characterized by their tendency to push forward when unable to solve a puzzle. For instance, in the first session, the co-player remembered the traps in "Fallen" and instructed the player how to find some of them, but then left the zone before finishing the task. In similar fashion, the group left many puzzles unsolved, causing them to have to backtrack to unfinished puzzles in their final gameplay session.

It took Group L five gameplay sessions to complete the game. Over the course of those five sessions, which amounted to 320 minutes (05:20:00) of gameplay, the player took 1,253 turns at talk (3.92 per minute), compared to the co-player's 1,903 (5.95 per minute). An overview of their experience by narrative chapter is presented in Figure 9.

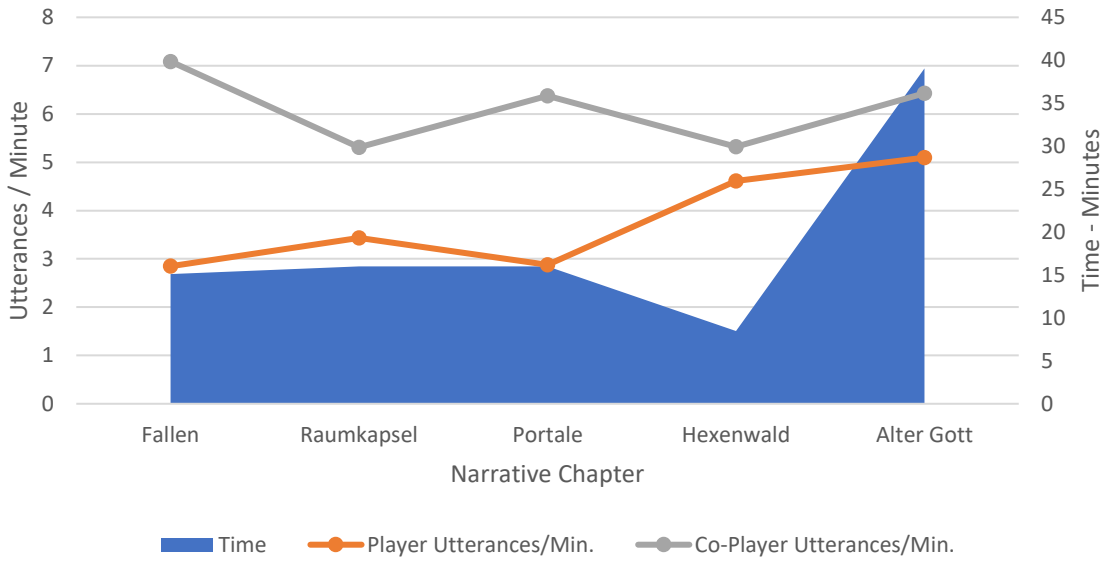

Figure 9: Group L's utterance count per minute across narrative chapters.

To summarize their gameplay experience according to zones (Figure 9), Group L spent the most amount of time solving "Alter Gott" and the least amount of time in the "Hexenwald" zone. However, in the other three narrative zones, they spent a similar amount of time. Different from Groups B and J, the co-player consistently spoke more than the player. The difference in their patterns is due, in part, to the co-player's experience with their previous partner and their attempt to relay that experience to their new partner. In addition, the dyad made extensive use of the supplementary materials and the co-player relayed instructions to the player, leading to an increase in their turns speaking. One such case was their solving of "Fallen," seen in Figure 10.

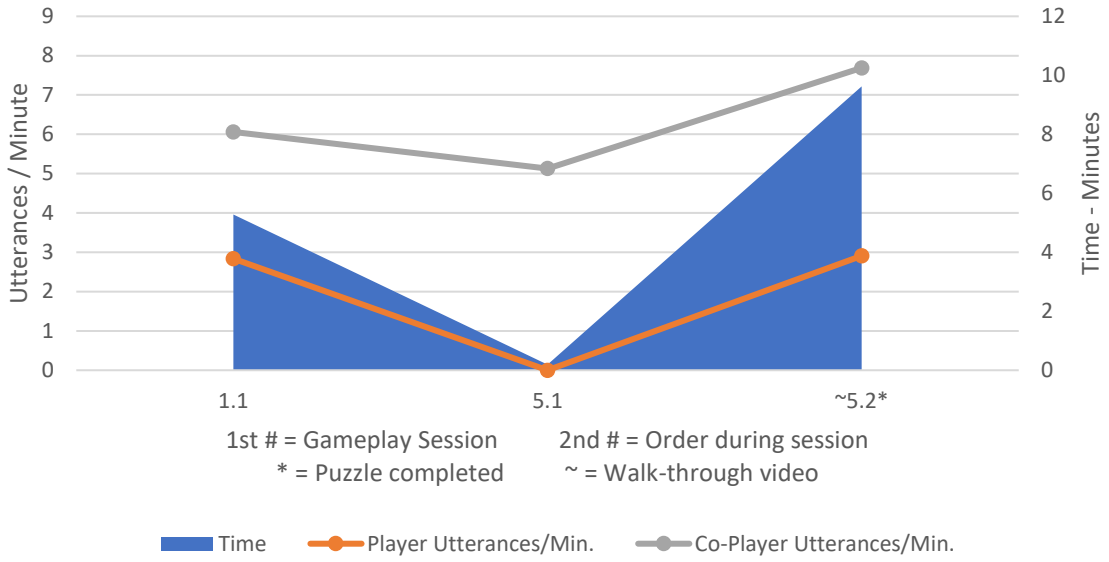

Figure 10: Group L's utterance count per minute for "Fallen."

Group L only visited the "Fallen" zone three times in their five gameplay sessions. During their first time in the zone, as they began the game, the dyad spent 00:05:17 searching for the traps the co-player had previously found with their first partner. The player only spoke 15 times (2.84 per minute), while the co-player made over twice as many utterances at 32 (6.06 per minute). After leaving the zone, they did not return until their fifth and final gameplay session. After locating Ethan, the game forced them back to complete unfinished puzzles. Upon arriving back at the border of "Fallen," the group entered and exited the zone for 11 seconds before returning for the third time. Their final time in "Fallen" lasted 00:09:37. As indicated in Figure 10, the group made use of the walkthrough video to solve the puzzle. With the co-player relaying information from the walkthrough video, they spoke 74 times, averaging 7.69 utterances per minute versus the player's 28, only 2.91 utterances per minute on average. Of the two times in "Fallen" in which the group spent significant time, the data reveal an increase in the average utterances for both the player and the co-player when solving the puzzle and interacting with the

narrative texts, possibly indicating a level of comfort with the game and with one another. Their experience in locating the traps is presented in Excerpt 7.

```
051  Co:  And you just found that bear trap, right?
052  P:   No, I haven't found that yet.
053  Co:  Oh, the bear trap isn't that far from that little fall off
054       trap. Or the trap that you just found.
055  P:   Oh, on the other side? ((**Co watching WTV**))
056  Co:  Yeah. So if you- Let me, uh, just pause that there.
057       (2.5)
058  Co:  The trap where you could have fallen in. That one.
059  Co:  And then, from there, you go off to the right of it. You cross this
060       rocky path and then there- Yeah, just beyond there is the bear trap
061       up ahead. There it is.
062       (1.5)
063  P:   Where?
064  Co:  Oh, keep walking a little bit.
065  P:   **laughs**
066       (1.0)
067  Co:  That's weird. It was like right there. A stick got caught.
068       ((**Co looking at main screen**))
069       (2.5)
070  Co:  There it is. **laughs** I was like, there it is.
071  Co:  Okay, so then like it creates more of that- And then...once you
072       find the bear trap from there...
```

Excerpt 7: Group L uses walkthrough video to find a trap.

Similar to Group J, Group L utilized the walkthrough video in order to locate the five traps. In their first gameplay session, they had found three of the five traps at the direction of the co-player. The excerpt begins with the co-player asking the player, "And you just found the bear trap, right?" The uncertainty was due to the co-player splitting their attention between the walkthrough video and gameplay while the player moved through the game world. In lines 053-063, the co-player struggled to lead the player to the next trap. The co-player paused the walkthrough video (line 056) to be able to pay closer attention to the player's movement. Using landmarks as visual reference points (line 058-061), the co-player described the path to take, but the player was still unable to find the trap, asking "Where?" The co-player prompted the player to keep moving forward, and the player eventually found it (lines 069-070). In line 071, the co-player started a turn, presumably

about the visual created when investigating the trap, saying “it creates more of that-,” suggesting an understanding of the puzzle mechanic, but cut off their utterance and moved on to describing the location of the fourth trap. Excerpt 7 demonstrates the player-co-player discourse patterns in relation to the use of the walkthrough video to solve the puzzle. It is characterized by frequent references to the visual field on screen and occasional pauses in gameplay in order to reference the video. In addition, it reflects the difficulty of navigating between the external walkthrough video and how it translates to in-game action. After finding the final trap and entering the parallel world, the dyad uses the walkthrough video to find the text at the base of the tree (Excerpt 8).

```
156  P:   Ooooh, those are skulls!
157  Co:  Woah. There it is. There’s the letter.
158       (2.0)
159  Co:  And it says Saft. Doesn’t that mean, like, drink?
160  P:   Juice.
161  Co:  Juice. ((**reads Saft out loud from transcript)
162       ((text on screen 54.0**))
163  Co:  ((**reads dialogue between Ethan and Ed with inflected voice**))
164  Co:  Oh, that was his grandpa.
165  P:   Mhm.
166       (1.5)
167  Co:  And then supposedly there’s suppose to be a news article.
168  P:   Yeah, I just found it.
169  Co:  Oh, cool. One dead in house fire. ((**reads English on screen**))
170       ((**Text on screen 1:00.0 + 29.0))
171       ((J reads under breath from transcript**))
172       (1.0)
173  Co:  Ohhh, this is interesting. You find all of this out in the
174       beginning. **laughs**
175       (1.5)
176  Co:  We just never knew.
177       (4.0)
178  Co:  Gayle Carter. So, I guess Gayle was maybe uh...his grandfather’s
179       wife.
180       (12.5)
```

Excerpt 8: Group L reads through “Fallen” texts.

After entering the parallel world through the window, the player moved forward and was surprised by the bones on the ground, “Ooooh those are skulls!” Their utterance prompted a reaction from the co-player, “Woah” (line 157), orienting them to one of the

multimodal cohesive devices before they find the short story. After picking it up, the player and co-player shared a short exchange about the title of the story, "Saft" / *Sap.* The co-player asked the player if "Saft" means *drink*. The player offered *juice* as an alternative, which is repeated by the co-player in line 161. Over the next several moments, the co-player read "Saft" out loud from the transcript as the player followed along with the text on the screen. This is followed by the dialogue between Ethan and Ed, which the co-player read out loud in an inflected voice, as though adopting the role and voices of the characters. Referencing the dialogue, in which Ethan says "Aber Opa, ich habe etwas für dich geschrieben." / *But Gramp, I wrote something for you,* the co-player realized Ed is Ethan's grandfather (line 164).

After the dialogue, the player turned around and picked up the newspaper article, and before switching it to the German text, the co-player read the title in English out loud (line 169). After reading the text, the co-player commented on finding out the information in the beginning (line 173-174), despite the lack of a decipherable order to solving the puzzles. The excerpt concludes with the co-player showing her comprehension of the article, noting that Gayle Carter was "his grandfather's wife" (line 178-179). This suggests a level of cognitive engagement with the text and the narrative more generally. The article does discuss Edwin's wife, Gayle, but requires the player to piece together the relationships between Ed, Ethan, and Gayle. Once the group finished with the article, spending a short time reading the article on the reverse side about the Vandegriff estate, they quickly exited the zone.

Group L, unlike Groups B and J, made no mention of the visual cohesive devices, aside from the skulls at the beginning of the narrative section of the chapter. Where the other two groups connected the empty bottles on the ground with drinking and the title of the allegorical short story, Group L made no mention of them. Instead, the player promptly

moved to the newspaper article. Additionally, the group did not appear to make any narrative connections between chapters, which may be due to the lack of time they had to complete the game in their fifth and final gameplay session.

Group N

Group N—the final group to be discussed—was comprised of one participant (co-player) in the same lower-advanced course as Groups J and L (German 328) and one participant (player) who had completed that course and was enrolled in a German theater course that semester. In the pre-study questionnaire, the player classified themself as a "casual" gamer who played three to five hours per week. The co-player, meanwhile, determined themself to be a "beginner" gamer and did not play digital games on a weekly basis. The player's preferred game genres included shooters, construction simulators (i.e., *SimCity*, Maxis, 1989), and multiplayer online battle arena games (i.e., *League of Legends,* Riot Games, 2009). The co-player selected platform games and action adventure games, in addition to construction and life simulators (i.e., *The Sims,* Maxis, 2000).

Group N's gameplay sessions can be characterized by their quick movement in and out of different zones, with little investigation or exploration. Over the course of their four sessions, which spanned a total of 04:56:35 (296 minutes), Group N entered a total of 89 zones. Compared to Group B, who logged seven sessions in 6:45:22 and entered 82 zones, Group N was more likely to move sporadically throughout the game world. Generally, if the solution to a puzzle was not immediately evident, the group would move to the next section. Their style is reminiscent of Group J's, focusing on identifying the boundaries of the game world before turning attention to the puzzles. To summarize their experience, the player made 1,370 utterances for an average of 4.62 utterances per minute. Conversely, the

co-player spoke 879 times, averaging 2.96 turns-at-talk per minute. Figure 11 summarizes their experiences in the narrative chapters.

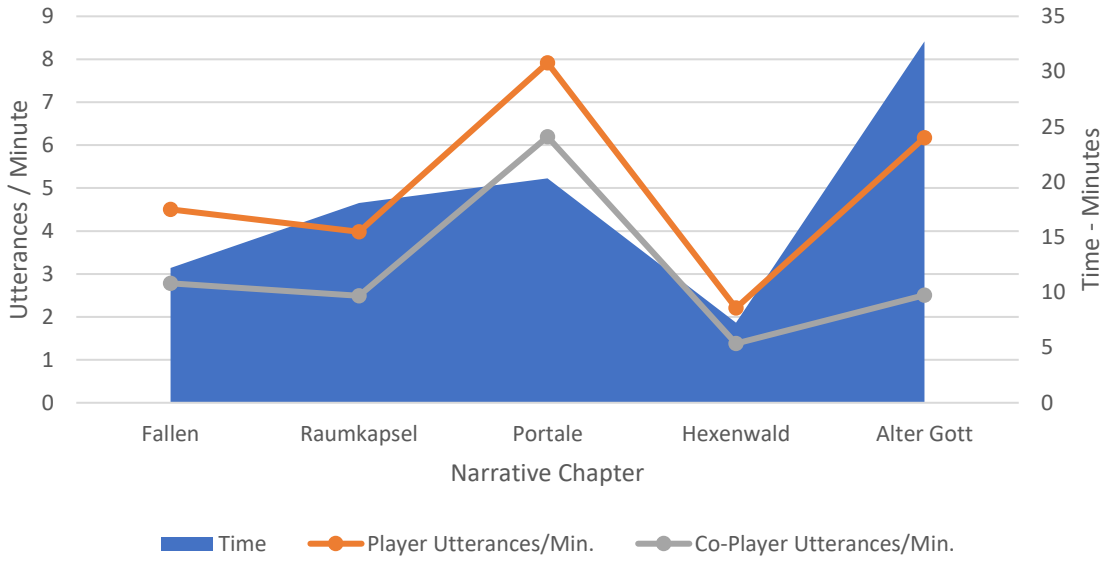

Figure 11: Group N's utterance count per minute across narrative chapters.

As Figure 11 shows, Group N spent the most amount of time in "Alter Gott" and the least amount of time in "Hexenwald," reflecting the other groups' experiences. The dyad's utterance patterns spike during "Portale," during which the player and co-player made 161 utterances (7.92 per minute) and 126 utterances (6.19 per minute) respectively. "Raumkapsel" generated the second lowest average utterances per minute, with the player contributing 3.98 turns-at-talk per minute versus the co-player's 2.49. The discussion now turns to Group N's experience in "Fallen" (Figure 12).

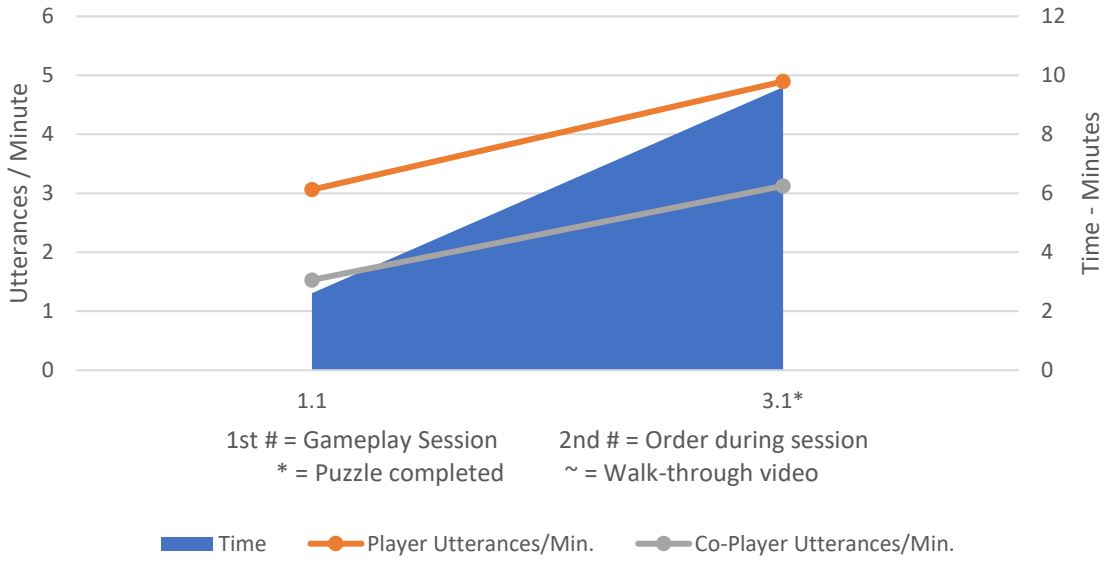

Figure 12: Group N's utterance count per minute for "Fallen."

Group N only entered "Fallen" twice over their four gameplay sessions—the first as they began the game and the second in their third session. Their first time in the zone lasted only 00:02:36, and some of that time was dedicated to the introductory monologue from Detective Prospero. During that time, the group did not explore the area, but rather followed the train tracks out of the zone. The player only spoke eight times (3.06 per minute) and the co-player took a mere four turns-at-talk (1.53 per minute). After realizing they had missed information in their third session, the dyad returned to the "Fallen" zone, where they spent 00:09:36 locating traps and engaging with the narrative texts. As a result, the player produced 47 utterances, averaging 4.90 per minute, compared to the co-player's 30 utterances at an average of 3.13 per minute. The time in which the group solved "Fallen" corresponds to an increase in utterance density, but the data are skewed due to the lack of times in the "Fallen" zone. Their experience in solving the "Fallen" puzzle is presented in Excerpt 9-10, beginning with the discovery of the first two traps:

```
011  Co:  Well, let's just keep looking around and let's try to see if there's
012       like a whole path.
013  P:   Yeah. ((inaudible))
014  P:   Oh fuck!
015  Co:  Oh! **laughs**
016  P:   Was that the jump scare?
017  Co:  No, I don't think so. Fühlen.
018       (2.5)
019  Co:  Okay, so I think that uh...
020  P:   Okay...so this is killer.
021  Co:  **laughs**
022       (5.0)
023  P:   ((inaudible))
024       (5.0)
025  P:   The hell?! Wait. That wouldn't kill anyway. That bounce from there
026       to there. ((**P looks closely at trap**))
027       (4.0)
028  Co:  Guess it didn't kill us.
029  P:   WHAT THE HELL?!
030       (2.0)
031  P:   Are these the jump scares?
032  Co:  Yea- I don't think these are the jump scares but like...
```

Excerpt 9: Group N and the player's emotional reaction to finding two traps.

Excerpt 9 begins with the co-player encouraging the player to stay and look around (line 011): "Let's try to see if there's like a whole path," at which point the player discovered their first trap, causing a verbal exclamation in line 014. The co-player responded with their own exclamation and laughter. The player asked if the trap was the jump scare that the groups were made aware of when beginning the game. The co-player answered, "I don't think so," and then prompted the player to click on the trap with *Fühlen*. The player investigated the trap, revealing the first section of the window to the parallel space and then looked more closely at the trap, calling it "killer." However, they promptly modified their stance in line 025, saying "that wouldn't kill anyway." The player then moved away from the first trap and came across their second trap, prompting them to shout "WHAT THE HELL?!" (line 029). They asked again if the traps were the jump scares and the co-player responded that they were not. Finding the traps for the player caused a level of anxiety, as Excerpt 9 demonstrated, as well as a level of engagement with the visual environment and led to some discussion between the player and co-player. The pair

managed to find two additional traps quickly but struggled to locate the fifth and final trap. While wandering around the zone, the trap was eventually sprung, leading the dyad to the narrative texts (Excerpt 10).

```
088       (54.0) ((**Both read silently from screen; text open for 53.0**))
089  Co:  Found the bones of the ((inaudible))
090       (11.0) ((**P sets text down**))
091  P:   **reading under breath**
092       (9.0)
093  P:   He's been drinking. ((**zooms in on empty bottles**))
094       (11.5) ((**P picks up article**))
095  P:   **reading under breath**
096       (6.0) ((**Text open for 57.0**))
097  P:   Am Unfallort in Bereitschaft.
098       (7.5)
099  P:   **reading under breath**
100       (11.0)
101  P:   Beschädigt.
102       (2.0)
103  Co:  Yeah.
104  P:   Hey, this looks like...
105       (3.0)
106  P:   I guess it could have started here. ((**looking at fire pit**))
107  Co:  Maybe.
```

Excerpt 10: Group N interacts with the narrative texts in "Fallen."

The pair read through the short story silently from the screen, during which time the co-player translated a line from the text (line 089). After setting down the text and reading through the dialogue between Ethan and Ed, the player zoomed in on the empty bottles covering the ground, commenting in the process "He's been drinking," however, it is unclear whether the player made the connection between the allegorical drinking in "Saft" and the visual cohesive cue in the bottles. They then turned to the fire pit and picked up the newspaper article. The player read the article primarily under their breath, but two lines are made audible: "Am Unfall Ort in Bereitschaft" and "beschädigt." The player then provided a hypothesis, presumably about where the fire they just read about may have started while looking at the fire pit (line 106), which the co-player acknowledged with "maybe." While Group N did comment on some of the multimodal cohesive elements, such

as the bottles and the fire pit, they do not spend much time with the narrative texts. They did demonstrate some textual engagement by reading portions out loud, but they do not follow up by verbalizing any connections they had made or interpretations of the texts. The player then left the area and worked their way out of the zone.

The results of the analysis of player-co-player interactional patterns indicate a level of co-patterning between the game environment, progression of the narrative, and learners' verbal engagement. As groups discovered the solution to the narrative puzzle and were granted access to the narrative texts, their communication increased. This suggests that language played an important role in how learners navigated their gameplay experience and negotiated both game-internal and game-external factors and resources. One such discussion of resources that occurred across each group was when and to what extent to use the supplementary materials, which is where the discussion now turns. In particular, the following analysis describes more generally how the supplementary materials function as tools for mediating groups' gameplay experience externally from the game world, particularly when problems arose.

USE OF SUPPLEMENTARY MATERIALS

By adopting a view of literacy that extends beyond the act of reading to include such acts as movement, role- or cos-playing,[10] discussing with a partner, or seeking help when stuck, the literacy associated with performance and gaming becomes more complex (Leander & Boldt, 2013). In the context of this research, playing *The Vanishing of Ethan Carter* requires learners to navigate between a variety of actions that contribute to their overall gameplay experience. The nature of gameplay in *The Vanishing of Ethan Carter* is

[10] Cos-play is when people dress up as characters from digital games, TV shows, movies, or novels.

highly exploratory. Players are encouraged to wander the map, examine oddities, and investigate anything they believe to be unusual. The game offers players a warning prior to gameplay beginning: "Dieses Spiel ist eine narrative Erfahrung und nimmt dich nicht an der Hand. / *This game is a narrative experience that does not hold your hand.*" From a game developer perspective, the warning translates to a lack of clues, signposting, and/or scaffolding. From an L2 learning perspective, this presents an issue in terms of game literacy and cognitive load. Without knowing how digital games typically present puzzles for players to solve (i.e., game literacy), players are likely to encounter difficulty and potentially be barred from progress. Consequently, the lack of in-game tutorials creates a higher cognitive load, as players attempt to parse out the task, physically navigate the controls, and process linguistic input simultaneously. For these reasons, it was important to build a minimal amount of scaffolding into the gameplay experience (see Chapter 3 and Gee, 2007).

Research Question #2: How do the supplementary materials—transcripts and walkthrough videos—mediate learner dyads' gameplay experience as literacy practice?

Game Transcripts

The transcripts were made available so that participants could re-read texts, particularly dialogues. Although both the player and co-player had access to the transcripts, the players hands were often on the keyboard and mouse as they controlled their avatar. Conversely, the co-player had control of the auxiliary computer with the walkthrough videos. However, the videos were not always in use, leaving the co-player free to browse the transcripts and provide feedback to the player as needed. Table 12 summarizes how many times the player and co-player referenced the game transcripts over the course of their gameplay experience.

Group	Player Reference	Co-Player Reference	Total
Group B (612)	55	113	168
Group J (328)	17	31	48
Group L (328)	3	48	51
Group N (Mix)	5	10	15

Table 12: Summary of transcript use for players and co-players.

In reference to Table 12, several things are noteworthy. First, every group utilized the transcripts in some capacity. Group B referred to the transcripts significantly more than the other three dyads, while Group N made minimal use of the transcripts. This is perhaps attributable to the participants' proficiency levels. Both learners in Group B were enrolled in the intermediate German course, and although they demonstrated an ability to comprehend texts they encountered, they often missed dialogue that appeared on screen for shorter periods of time. The difference in materials use may also be a product of gameplay style. Group B showed a high level of engagement with the narrative, while Group N occasionally read in-game texts in English, rather than German and appeared to be more focused on task completion than the storyline.

The reference count in Table 12 provides some insight into the potential difficulty of certain passages, particularly due to the speed at which spoken sections appeared and disappeared from the screen. Perhaps more significant, however, is *how* dyads used the transcripts throughout their gameplay sessions, which went beyond merely reading a passage or re-reading a missed dialogue. In fact, dyads used the transcripts in two different ways: to recap a scene or chapter and as a linguistic map to the game world. The former usage was the predicted application of the transcripts and the reason for providing them in

the first place. It offered groups an opportunity to spend more time-on-task and to read texts multiple times if needed. The latter, using the transcripts as a map, was an unexpected way in which dyads transformed their literacy practice to suit their environment. With no knowledge of the game mechanics or of the narrative, other than finding the missing Ethan Carter, dyads may have become lost or stuck. However, each group used the chapter headings and texts they had come across to locate their avatar within the game world. For instance, Group B left the "Fallen" zone during their first gameplay session without solving the puzzle. The player moved their avatar to a rickety bridge, at which point, an inner monologue from Detective Prospero was tripped and scrolled along the bottom of the screen:

> Red Creek Valley. Schien wie ein ruhiger, gewöhnlicher Ort. Ich habe zwei Dinge in meinem Leben gelernt. Kein Ort ist wirklich ruhig und nirgendwo ist es wirklich gewöhnlich. Ethan hatte mich davor gewarnt. Warnte mich, mich nicht davon täuschen zu lassen, was ich hier sah. Er musste sich keine Sorgen machen. Ich habe schon Dutzende Fälle gelöst. Hunderte. Das würde mein letzter werden.
>
> *Red Creek Valley. Seemed like a quiet, ordinary place. I've learned two things in my life. No place is truly quiet and no where is really ordinary. Ethan warned me about that. Warned me not to be fooled by what I saw here. He didn't need to worry. I'd worked dozens of cases. Hundreds. This would be my last one.*

The monologue is presented in segments and passes quickly. The co-player attempted to locate the monologue in the transcripts in order to re-read it, but in doing so realized that it was the beginning of the second chapter in the transcripts. As such, the co-player became aware that they had "missed something" in the previous area, since they were able to see the texts they had not yet found in "chapter 1." In addition, the monologue on the bridge, as the first lines in chapter two in the transcripts, led the player and co-player to discuss going back to where they had started, indicating their orientation to chapter boundaries. Group B was not the only dyad to employ the transcripts as a pseudo map.

Indeed, every group utilized the transcripts in this way at some point during their gameplay process. Although this was an unintentional effect of the transcripts, it proved an important scaffolding device for groups as they moved throughout the game world. In this way, the transcripts would either point groups backwards to texts they had not yet found (read: puzzles they had not yet solved) or forward to the number of chapters they had yet to complete to finish the game. With the lack of signposting in the game giving players a clue as to what to look for in any given area, the transcripts served as a linguistic heuristic device to allow groups to locate themselves spatially in the game world.

Walkthrough Videos

The other supplementary material groups had access to were walkthrough videos, whose titles corresponded to the chapters in the transcripts for easy navigation. Within the gaming community, walkthrough videos are a common resource for players who get stuck and need assistance; however, the way in which players use walkthrough videos differs depending on the level of help needed and the gameplay style of the player. Due to the difficulty of some sections of the game, it was necessary to give dyads a controlled resource—in German and without internet access. Unlike with the transcripts, where tallying discrete references was an option, it was not possible to quantify the number of times walkthrough videos were used. This is due to groups leaving walkthrough videos running while they solved puzzles and referencing videos several times at once. However, it is possible to determine in what sections of the game dyads referenced videos. Table 13 shows the four groups and the chapters for which they used the walkthrough videos, with a focus on the compulsory semiotic events required to complete the game.

	Fallen	Raumkapsel	Portale	Hexenwald	Alter Gott
Group B	⊗	⊗	⊗	⊗	√
Group J	√	√	√	⊗	√
Group L	√	⊗	√	⊗	⊗
Group N	⊗	⊗	⊗	⊗	⊗
⊗ = Group **did not** use the walkthrough video to solve the puzzle √ = Group **did** use the walkthrough videos to solve the puzzle					

Table 13: Groups' access to walkthrough videos by narrative chapter.

Table 13 shows three of the four groups used walkthrough videos to solve different puzzles, although the data are somewhat deceiving. Group N did, in fact, access the walkthrough videos on several occasions during their gameplay sessions, but did not use them to solve the narrative puzzles. The other three groups used the videos in different ways from one another, and to different extents. For instance, Group B only referenced the walkthrough videos for one puzzle, considered the most difficult, "Alter Gott." Conversely, Group J used the walkthrough videos for four puzzles, only skipping "Hexenwald," the tripped puzzle that does not require solving. Finally, Group L referenced the walkthrough videos for two puzzles, but only during their fifth and final gameplay session. This is likely because the dyad had little time left in the semester to complete the game and was attempting to finish during that session.

What Table 13 does not reveal is *how* the dyads utilized the walkthrough videos. Groups B and N often watched only the beginning rather than the whole video. This often resulted in a stoppage of play, while both player and co-player watched the videos. For example, while in the mine and attempting to solve the "Alter Gott" puzzle, Group B discovered the room with the platform and the gate. After spending a significant amount of their time testing hypotheses about how to open the gate, they decided to watch part of

a walkthrough video, during which they discovered they needed to locate more bodies in the maze to solve the puzzle and headed back to the maze to do so. Alternatively, they could have watched the entire video to determine the locations of the bodies or the end of the video to get the solution to the gate. Groups J and L took different approaches, choosing instead to watch the entire walkthrough videos and using them as a step-by-step guide to solving puzzles, often resulting in the co-player relaying directions for navigation to the player. Both approaches represent different literacy practices that led the groups to the crucial narrative texts found at the end. Where one approach allowed the player and co-player to shift focus from video to gameplay together, the other tactic did not break the gameplay practice and prompted an increase in communication as the co-player relayed information to the player.

CONCLUSION

In this chapter, I have presented aspects of L2 learners' literacy practices as a part of the process of playing the digital game, *The Vanishing of Ethan Carter.* The gameplay process, when viewed as a complex, multiliteracy act, rather than as merely contextualized vocabulary practice, demands a different perspective on learner-game interactions. Learners' literacy skills must be flexible enough to manage multiple tasks simultaneously, as they navigate the digital world, consult outside resources, and communicate with their partner, which expands on previous iterations of critical games literacy (Apperley & Beavis, 2014). As players and co-players engage with the gameplay process, they must interpret and react to designs of meaning in the game, as well as re-design meanings through interaction with their partner (Cope & Kalantzis, 2015) as an outcome of reading and interpreting both linguistic and multimodal semiotic resources.

The two research questions regarding learners' gameplay process addressed different aspects of their literacy practices. The first analysis sought to accomplish two goals: first, to provide an overview of the interactional patterns amongst players and co-players and second, to explore the content of those interactions as part of the process of solving and engaging with the narrative puzzle "Fallen." The first half of the analysis revealed that, between the compulsory narrative chapters in *The Vanishing of Ethan Carter,* "Hexenwald" required the least amount of time to complete and often generated the lowest utterance count per minute. Meanwhile, groups dedicated the most amount of time to "Alter Gott," but the complexity and difficulty of the puzzle did not necessarily correspond to an increase in player-co-player utterance frequency. In addition, the data for player versus co-player utterances revealed no correlation between participants' roles as either player or co-player and the frequency of their utterances. That is, players and co-player utterance patterns varied across each group, with the players in Groups B and N taking more turns than their co-players and the co-players speaking more often than players in Groups J and L. However, there may be a link between the use of the walkthrough videos and participants' utterance counts based on their roles as either player or co-player. Taking a closer look at the "Fallen" puzzle in particular, the analysis showed that across multiple encounters with the same narrative zone, the time in which groups managed to solve the puzzle and gain access to the narrative texts correlates to a higher density of turns-at-talk for both players and co-players. Although further analysis is needed with a larger sampling of participants, the patterning of player-co-player interactions seems to be indicative of groups' probability of solving the puzzle.

The second half of the first analysis investigated the content of groups' interactions as they went about solving the "Fallen" puzzle and engaging with the narrative texts. The groups appear to be divided based on whether they made use of the walkthrough video to

solve the puzzle. The groups who did (J and L) produced more directions, using salient visual features to guide the player from trap to trap until all had been located. Conversely, Group B noticed the game mechanic in which each trap contributed a new piece to the window and explored the zone until all five traps had been discovered. Although Group N did comment on missing a trap, their search for the fifth and final trap was unstructured, yet they managed to locate it eventually. After solving the puzzle, each groups' experience with the narrative texts varied, particularly in whether or not they appeared to notice the multimodal cohesive devices, such as the bones, the empty bottles, and the cigarette packs. Groups B, J, and N explicitly mention either the bottles or the activity of drinking, while Group L either did not notice or simply did not vocalize their thoughts. It is noteworthy that only Group B appeared to have connected "Fallen" with another chapter in the game, "Portale." It is possible that other groups were making similar connections and just not discussing them out loud.

The second research question offered commentary on how dyads made use of the supplementary materials. The transcripts, in addition to being used re-read sections of text, became a kind of linguistic map to the digital space. They allowed groups to understand their location in the game world and pointed them in different directions based on whether they had encountered a text or not. The videos were used to different extents by each group, sometimes simply to jump start the puzzle-solving process or to receive a clue about what direction to go. However, on other occasions, groups would watch the videos as a guide through an entire chapter. Despite the differences in how the videos were employed, the end goal was the same for each group and allowed them to gain access to the linguistic texts that contributed to the narrative.

The results presented in this chapter serve to uncover the complexity of playing a digital game in a foreign language. The participants relied on different strategies to achieve

their goal of completing the game. Namely, players and co-players adopted different strategic roles in their dyadic configurations and employed different problem-solving styles, suggesting the appeal of digital gaming environments to different learning styles. To conclude, the evidence provided here documents how the literacy process goes beyond physically manipulating the controls and navigating an avatar through a digital environment. It requires learners-as-players to engage with multiple aspects, all of which contribute to the overall multiliteracies act (Leander & Boldt, 2013). The process of "reading" a digital game involves digital exploration, navigation of supplementary materials, and negotiation of emergent and existing knowledge between player and co-player and creates numerous opportunities to communicate and collaboratively problem-solve, which could be didacticized to optimize learning opportunities.

Chapter 6

Conclusion

The goal of this dissertation study has been to investigate the textuality of digital games and their potential affordances for the development of L2 multiliteracy abilities. Much of the scholarship in the burgeoning field of DGBLL has focused on vocabulary acquisition (deHaan, 2005; deHaan et al., 2010; Miller & Hegelheimer, 2006; Ranalli, 2008) and on the development of learners' communication ability within a gaming environment (Peterson, 2012; Reinders & Wattana, 2011; Zheng et al., 2009). The current research project was designed to contribute to the ongoing discussion of the role of digital games from and L2 learning perspectives by adopting a different point of view on digital games as texts, namely gameplay as an act of multiliteracy engagement.

SUMMARY OF ANALYSES

This research project was comprised of two separate, yet interrelated approaches to investigate the relationship between digital games and literacy practices of L2 learners of German. In the first approach, I conducted a textual analysis of the game, *The Vanishing of Ethan Carter* (The Astronauts, 2014). The disjointed narrative requires the player to explore and investigate the game world in order to turn up clues that provide pieces to the

narrative puzzle and bring them one step closer to understanding the mystery. The game's plot and conveyance of narrative information in a segmented, non-linear fashion creates a unique delivery mechanism for the storyline. Using SFL and social semiotics as the frameworks for analysis (Halliday, 1978; Halliday & Hasan, 1976; Harman, 2013; Martin, 1984, 2001; Martin & Plum, 1997; Painter & Martin, 2011; Thomas, 2014), I identified the text types with which the player interacts, as well as the way those texts were organized in an analysis of genre. In addition, I examined how cohesion is established in the game's compulsory narrative chapters, which include an allegorical short story, a short dialogue, and an artifact. Finally, looking to multimodal semiotic resources, I investigated how the linguistic texts in the narrative chapters are grounded in the multimodal environment as a product of intermodal complementarity and resemiotization (Iedema, 2001; Painter & Martin, 2011; Thomas, 2014).

The genre analysis revealed an orbital genre structure (White, 1997), in which the nucleus of the narrative is Ethan's disappearance and death and each satellite contributes new information to the emergent storyline. The organization of these linguistic texts reflects the gameplay mechanics of a detective's investigation. That is, the player's role as a detective requires them to discover new information presented in no particular order, which must then be pieced together. However, the compulsory chapters that convey the narrative appear at first glance to be unrelated to the other texts within each chapter, as well as between chapters. The lexical cohesion analysis demonstrated the level to which lexical themes link these otherwise disparate texts. For instance, in the "Fallen" narrative chapter—comprised of the short story, "Saft" / *Sap,* a short dialogue between Ethan and Ed, and a newspaper article about the house fire that killed Ed's wife—the lexical themes of *writing, fire*, and of something being *hidden* or *missing* create cohesive ties between the texts. This type of analysis, I believe, offers a way into "grading" digital games for

difficulty in an L2 learning arena by establishing the density of connections between linguistic resources and visual representations. This becomes especially relevant for those games whose cognitive demands or semiotic literary demands vary widely between episodes or levels. To use such games will require specific and varied types of scaffolding that account for L2 learners' game literacy and language abilities, so as to minimize their cognitive load.

While the linguistic texts convey information important to the game's plot, they are not the sole source of semiotic material. Indeed, the texts are embedded in the game world, a digital landscape built of visual and auditory semiotic resources. The multimodal analysis demonstrated how elements in the linguistic texts are represented in the visual co-text, creating a strong orientation to intermodal complementarity. The analysis of intermodal complementarity for "Fallen" revealed how visual semiotic resources, such *as traps, bones, bottles, cigarettes, Ed,* and *fire* serve to tether the narrative linguistic texts to the visual environment. In addition, the analysis showed that some visual semiotic resources were presented to the player prior to encountering the linguistic texts, providing an anaphoric orientation from the lexical items to their visual constituents, while others only became visible after reading the short story, creating cataphoric intermodality. Understanding how the visual and linguistic modalities (and potentially other modalities as well) relate to one another through intermodality creates opportunities for developing heuristic devices, which may be particularly useful for novice gamers and L2 learners alike.

The second half of this research project investigated how L2 learners of German interface with *The Vanishing of Ethan Carter*, focusing on the process of gameplay as a literacy practice. The goal of adopting a multiliteracies (Cope & Kalantzis, 2015) approach to the gameplay analysis was to treat *The Vanishing of Ethan Carter* as a complex, multimodal text and as such, to explore L2 learners' literacy practices as they interact with

different *designs* of textual meaning. The video and audio data from L2 learners' gameplay sessions were analyzed for patterns of communication between players and co-players, as well as the content of those interactions, in relation to their engagement with the games' compulsory narrative puzzles. The second approach to the question of gameplay as literacy practice involved a descriptive analysis of how dyads employed the supplementary materials—linguistic transcripts and walkthrough videos.

The results of the learner gameplay analyses revealed the complexity of L2 learners' experience during the gameplay process. The results of the first analysis—investigating player and co-player utterance counts across narrative zones—revealed a link between relative task difficulty (as measured by puzzle elements and the number of steps to solve the puzzle) and amount of communication produced by the players. The data showed that an increase in time-on-task, as a measure of puzzle difficulty, corresponded to a rise in turns-at-talk. However, the analysis also indicated individual variance between groups, with some players speaking more frequently than co-players and vice versa. The difference in utterance patterns between groups and players versus co-players may by attributable to the use of supplementary materials. For instance, the co-players in the groups that used the walkthrough video to solve "Fallen" spoke more frequently than their players. The second analysis provided a detailed account of how dyads' communication helped them when solving the same narrative puzzle. Transcripts of player-co-player conversations were analyzed on two fronts: 1) how learners communicated in the process of solving a puzzle, and 2) how learners engaged with semiotic resources, both linguistic and multimodal, while interacting with the chapter's narrative texts. The data revealed that during the puzzle-solving portion of the narrative chapter, some groups relied on walkthrough videos to locate the pieces of the puzzle while others drew on their knowledge of game mechanics as a semiotic resource. Player-co-player conversations also showed

which intermodal cohesive devices, such as the bones littering the ground or the empty booze bottles, learners noticed after solving the puzzle and gaining access to the linguistic narrative texts. While each group mentioned at least one visual cohesive device, it is unclear to what extent they related the visual and linguistic resources to one another. However, through their conversations, partners demonstrated a level of understanding and interpretation of the linguistic texts and some participants were able to tie the new narrative information back to other narrative experiences they had encountered previously. The player-co-player interactions, in conjunction with the (co-)player-game interactions indicates learners' abilities to integrate new L2 information with their own cognitive and cultural resources and schemata, which allowed participants to move the game forward and eventually finish it.

The third analysis investigated the way in which dyads employed the supplementary materials, which revealed creative problem-solving and different orientations to gameplay styles. The transcripts, which were included as a scaffolding device in order to provide learners with an opportunity to reread sections of text—particularly spoken dialogues and monologues—were used by the dyads as a linguistic map to the digital game world. Groups referenced the transcripts to locate themselves in the digital space and as an indication of what they had and had not completed. Additionally, groups used the walkthrough videos to different effects—either to receive a clue to continue on their own or as a step-by-step guide to solving puzzles. Here again, the data suggest that digital games may help learners with different cognitive and cultural styles.

DISCUSSION

The results of both the textual game analysis and the learner gameplay analysis data presented in this dissertation imply several key insights for the field of DGBLL. First, the analysis of textuality in *The Vanishing of Ethan Carter* suggests that narrative digital games, as complex, multimodal, semiotic texts rely on numerous meaning-making resources, such as flexible narrative organization that encourages player exploration and the repetition of semantic themes, both linguistically and multimodally, to create a cohesive and coherent text regardless of the effects of player agency. From a multiliteracies perspective, the outcome of the textual game analysis also implies multiple designs of meaning (i.e., through gameplay mechanics, narrative organization, and intermodal complementarity), contributing to the complexity of the game's textuality, but also to the learners' facility of working with the game.

In addition to the results of the game analysis, the research design also carries implications for future directions of DGBLL scholarship. The investigation of textuality through the lens of SFL and social semiotics provides an example of one method for analyzing digital games from a language-learning perspective. SFL allows the analyst to marry linguistic structures with their social environment. In the case of *The Vanishing of Ethan Carter,* the SFL and social semiotic framework allowed for the exploration of meaning-making at the intersection of linguistic structures, multimodal semiotic resources, game mechanics, and player agency, thereby creating a holistic perspective on the digital game while simultaneously expanding on the notion of narrative. These results suggest that future game analyses must be careful in structuring investigations that account for this multimodality. That will require careful planning of the digital environment in terms of *all* of its streams of functional data (i.e. knowing what domains of cognitive demands the game makes on its users) and attention to differentiating how players as L2 learners

actually complete the tasks required in the game (especially with regard to the domains of experience they bring to gameplay). Developing such an understanding of the meaning potentials made available in digital games is essential to interpreting L2 learners' literacy experiences with digital games.

Regarding the analysis of L2 learners' gameplay experience, the results imply that engagement with *The Vanishing of Ethan Carter* goes beyond learners' comprehension of individual lexical items. Rather, gameplay as an act of multiliteracy engagement requires learners to navigate in and between different designs of meaning (i.e., the game's controls, the presentation of narrative information through solving puzzles, multimodal semiotic resources, linguistic texts, external resources, partner interaction, etc.), as well as to link those designs both within the digital environment and without. In short, as an act of multiliteracy engagement, the literacy practices of L2 learners during the gameplay process involves the interpretation of multiple designs of meaning, which are also re-designed through partner communication. The learner gameplay analysis has further implications for the role of game selection and game genre on literacy practices. *The Vanishing of Ethan Carter*, although a single-player narrative-driven game, still engenders a space for L2 learner-to-learner communication and interaction due to the game mechanics of puzzle solving.

Concerning language specifically, both learners' L1 and the L2 played integral roles in how they engaged in gameplay and in the game's narrative itself. Both players and co-players relied on their L1 to help them make sense of the L2 environment in which gameplay was set, including to solve puzzles and navigate the game world, but also to exchange questions about L2 vocabulary and the meanings of different phrases. At times, some participants used the L2 to organize aspects of gameplay as well, moving seamlessly between the two languages. In addition, the game introduced several linguistic gatekeeping

moments in which learners had to understand the L2 texts in order to progress forward without the help of the walkthrough videos. The way in which learners employed their L1 and L2 to navigate and negotiate the intricacies of the gameplay process ultimately created a translingual experience that resonates with language use in a globalized society.[1]

Similar to the game analysis, the research design for the learner gameplay analysis offers valuable insights into how to triangulate experiential data. If the gameplay process for L2 learners is complex and multifaceted, the methods for data collection should reflect those intricacies. Collecting data in the form of video and audio recordings, as well as questionnaires, recall protocols, and focus group interviews provide researchers multiple avenues of inquiry, allowing them to approach the question of DGBLL from multiple perspectives. In short, utilizing a variety of research methods, particularly those afforded to researchers by technology will allow for the development of a more holistic and comprehensive understanding of digital games for language learning purposes.

The results of both game and gameplay studies created multiple paths to understanding the outcomes of each analysis. For instance, without an understanding of the relation between the game's fantastical narrative linguistic texts and their embeddedness in a hyper-realistic visual gameplay environment through the intermodality analysis, learners' *noticing* of such visual cues would have been less significant. The knowledge gleaned from both analyses could serve as a strong foundation for classroom implementation and developing relevant and useful pedagogical interventions to allow learners to expand on their *noticing* to think critically about the role intermodality plays in visual literacy and narrative. In short, to optimize the usefulness of digital games for

[1] While not explicitly addressed in this dissertation, the internet and globalization as they relate to digital games brings into question the role of culture. Digital games often represent a particular cultural perspective, yet have a playership that transcends national and cultural boundaries. For DGBLL and L2 multiliteracy development more generally, this issue will need to be carefully addressed in future research.

multiliteracy development, it is equally important to understand the meaning potentials within a game as well as if learners engage with those meanings and how they do so. Indeed, as the field of DGBLL continues to grow, there is an obligation to understand the nuances of digital games and how they present information through narrative construction, task type, and gameplay mechanisms if we are to fully comprehend L2 learners' experiences.

Finally, the results of both the game analysis and the gameplay analysis reflect the critical games literacy model proposed by Apperley and Beavis (2014). Regarding the games-as-action layer, groups facilitated in-game *actions* through their interactions with one another and through the hardware (i.e., keyboard and mouse) that controlled the software. This interaction caused the game software to respond to the contextually-bound *situations* presented to them by the game's *design* (i.e., solving puzzles to get narrative information). In short, each *action* of the group created new *situations* as a result of the game's *design*, producing a reciprocal process between the player(s) and the game.

In addition, during the process, players and co-players alike often demonstrated their *knowledge about games*, sometimes referencing other games they had played in the past or picking up on the game mechanics in *The Vanishing of Ethan Carter*. In so doing, dyads also discussed their role (i.e., what they *need* to do in the game), indicating an understanding of the emerging game structure and narrative. When groups encountered difficulties, they applied their knowledge about the *world around the game*, drawing on different knowledge domains or external supplementary materials to push gameplay forward. Lastly, groups displayed their ability to *learn through games*, for instance by identifying patterns in gameplay mechanics, adapting to unfamiliar game controls, and developing an understanding for spatial factors in the game world.

Learners' engagement with the game was accomplished while negotiating between their L1 when speaking with their partner and their developing L2 in the game world and transcripts. As such, learners' gameplay experiences in an L2 environment reflect principles of sociocultural theories of learning, self-scaffolding their learning through collaboration with their partner, drawing on other domains of knowledge as schemata for problem-solving, and using external resources when they deemed it necessary to move gameplay forward. These factors reiterate the affordances of game-internal mechanisms (i.e., game design) and game-external social factors that scaffold players' experiences (e.g., Gee, 2007; Miller & Hegelheimer, 2006; Sykes et al., 2012; Zheng et al., 2009). The results point to L2 learners' flexibility while engaging in a multiliteracy activity. If participants did not demonstrate these game literacy abilities when they started, many did so by the time they finished.

LIMITATIONS

While the current study has provided several insights on the textuality of digital games and L2 learners' experiences during gameplay, several limitations manifested as a result of the study's design and game selection. To begin, the transcripts of the linguistic texts in the game, which were incorporated into the learner gameplay study as supplementary material posed a complication in the research design. These transcripts were organized linearly, i.e., from the point where players begin the game to where the climax and ending occur, an organizational structure that did not reflect the game's mostly nonlinear movement driven by players' own instincts. In addition, these written texts were divided into "chapters," which similarly indicated a particular order of events. For the gameplay analysis, learner dyads used the transcripts and their organization from chapter

1 to chapter 13 as an indication of order in which they were to solve puzzles. As such, the transcripts may have influenced learners' movement and decision-making throughout the game world, as indicated by their reference to moving backward or forward in relation to the transcripts. That said, the organization of the transcripts may have provided valuable scaffolding from an L2 perspective and presents a potential avenue for future research by creating digital transcripts using hyperlinks to prevent unnecessary ordering.

Another limitation pertains to the quality of audio recordings. The screen-capture software (XSplit) included an option to record in-game sound (i.e., the game's soundtrack and diegetic soundscape), as well as game-external sound (from the microphone). Unfortunately, the software prioritized the in-game sound and the microphone used to record players and co-players during gameplay was not sensitive enough to overcome the discrepancy. For this reason, it was necessary to isolate vocals using another software program, Audacity. With a different selection of options in XSplit, this step would be rendered unnecessary.

A further limitation involves the learner population and data collection. The research design and access to rooms and equipment could only accommodate a smaller group of learners. The population size limits the possibility of extrapolating results to larger contexts. Given access to more equipment capable of supporting the game and its graphics, a larger group of learners would expand the possibility to interpret results as meaningful patterns of multiliteracy practices, rather than as potential variances in gameplay styles. In addition, a larger sample size would allow the researcher to control for a wider variety of variables, which was not possible for this research project. To the issue of data collection, the sheer quantity of data collected prevented the incorporation of all data sources. As a result, certain data were chosen for further analysis as a means of limiting the study's scope. However, data that were not analyzed (i.e., recall protocols, pre- and post-study

questionnaires, etc.) may help to elaborate on the analyses presented in this dissertation or provide a different perspective altogether. These data sources could be addressed and analyzed in future research.

Related to game choice, *The Vanishing of Ethan Carter* did not include audio support for German. Detective Propsero's monologues and other dialogues between characters in the game had to be read as subtitles. This led to a limitation of semiotic resources, since participants did not have access to meanings conveyed through inflection and tone of voice. However, this is a consequence of choosing an independently developed game, which often convey rich narratives over shorter playthrough times but are unable financially to include audio for multiple languages. In general, only highly successful commercial off-the-shelf digital games are capable of providing audio for other languages.

The genre of *The Vanishing of Ethan Carter*, as a detective-mystery game created another potentially limiting factor. The results of the above analyses should be interpreted within the bounds of this narrative genre, particularly as it relates to game mechanics. For instance, the textual analysis may differ drastically for a simulation game, such as *The Sims* (Maxis, 2000) or for an action-adventure game, like *The Legend of Zelda: Ocarina of Time* (Nintendo, 1998). In addition, *The Vanishing of Ethan Carter* is a single-player game, which through research design became a partner endeavor. Other games are naturally multiplayer, which may affect the results if the methods of this project were applied similarly. The single-player orientation to gameplay also affected the level of agency the co-player had. There were moments where the co-player suggested a course of action not taken up by the player, limiting the co-player's ability to contribute to the process.

Additionally, *The Vanishing of Ethan Carter* was purchased on Steam[2], allowing for only one access account. In practical terms, that meant that it was impossible to create separate save points for each participant group. As a result, each group would have had to play from the beginning each gameplay session. In order to maintain their progress level, I had to replay the game to make their contemporary session accurate. This led to an unexpected level of additional work and, at times, delays for the participant groups as they waited for me to reach the correct level. It also created some gaps in gameplay, where dyads had found particular puzzle elements in a previous session, but had not fully solved the puzzle, yet in the new session would be required to relocate relevant puzzle items. In the future, it would be ideal to have access to a copy of the game per group, but this too could result in financial restrictions, with some digital games costing $60 or more.

FUTURE RESEARCH

As a relatively new field of inquiry, there are multiple ways to expand on this research project. First, it would be valuable to apply the multimodal "textual analysis" demonstrated in this research to a variety of other digital games. By applying the SFL and social semiotic framework to a wider array of digital games, it may be possible to validate the approach to identifying meaning-making resources and describing the relation between linguistic structures and their multimodal environment across different digital game contexts and genres. Additionally, by analyzing a variety of different games and genres, it may become possible to develop a paradigm for determining game difficulty and level appropriateness for L2 classroom implementation.

[22] Steam is an online game management system, used for PC gaming, rather than for console gaming.

Research that explores how and to what extent digital games across various genres require language use to engage in gameplay would be of great benefit to DGBLL scholarship. For example, while MMORPGs facilitate communication as integral to successful gameplay, other genres of games may not. Further investigation is needed to determine the effects of game genre on learner communication to build a better understanding of game selection. Another avenue for future investigation could explore the difference in learners' communication patterns by controlling for the language of player-co-player interactions. Requiring participant groups to speak German and including a control group allowed to speak English, one could examine the depth of learners' interactions as they relate to language, the effectiveness of player-co-player communication, and the quantity of learners' utterances. Such inquiries would provide integral information about the role of learners' language as a factor of multiliteracy practices and as an act of translingual engagement.

To expand on this research project specifically, it would be beneficial to implement *The Vanishing of Ethan Carter*, as a part of a pedagogical sequence, including didacticized materials and assessment that create a more enhanced horizon of expectations for the learners. To take the multiliteracies approach adopted here to the next level, for instance, future research could explore how players redesign meanings they experience during gameplay through follow-up tasks. For example, after didacticizing the narrative chapters and discussing the generic, nucleus-satellite structure as an organizing principle of the game's texts, one could have learners participate in writing a news article, which shares a generic structure to the game's macrogenre, about the events in the game in their L2. As such, learners would be required to dissect the game's generic structure, dialogue with in-game texts as models for their work, and synthesize and present the game's narrative information in a different format.

CONCLUDING REMARKS

To conclude, the goal of this dissertation has been to contribute to the growing field of DGBLL through an investigation of textuality of *The Vanishing of Ethan Carter* and L2 learners' experience as they play the game. The results of the analyses have shown that digital games do indeed demonstrate a strong orientation to textual meaning, even given a disjointed narrative structure that can only be advanced via player agency. Complementary to the game analysis, the L2 learner data analysis revealed that playing a digital game is a complex literacy experience that requires learners to navigate a variety of meaning-making resources and negotiate information and knowledge as central to multiliteracy engagement with a digital game.

Appendix A:
IRB Research Proposal

1. **Title** Gaining language XP through story-playing: Meaning-making and L2 learner engagement in a narrative-driven digital game

2. **Principal Investigator**
   Kristina M. Schoen, kms4884, Department of Germanic Studies

3. **Purpose**
   In recent years, digital games have evolved to include more detailed graphics and more complex storylines. Despite the development of more in-depth stories, current research on digital games for language learning has tended to treat games as mere language learning tools (deHaan, Reed, & Kuwada, 2010 for vocabulary acquisition), thus overlooking their value for holistic learning as rich, semiotic texts. In addition, research has yet to address what the process of playing a digital game in a second language (L2) looks like. This study aims to fill the gap in the existing literature through a two-part investigation.

   The first part of this research draws on Systemic Functional Linguistics (SFL) (Halliday & Matthiessen, 2004) in order to conduct a detailed analysis of the game *The Vanishing of Ethan Carter* (The Astronauts, 2014), a narrative-driven, detective-mystery digital game. The goal of the analysis is to explore how cohesion and coherence are created and maintained throughout the non-linear narrative. Specifically, the texts that comprise the game are analyzed for their genres (Martin & Rose, 2008), as well as the way in which evaluative language (Martin & White, 2005) engenders suspense and draws in and leads the player-as-reader down a narrative path. Finally, the way in which the player's visual field, the soundtrack, and the soundscape combine to reinforce or mislead the player's understanding of the game's plot are investigated (Huemer, 2008; Kress & van Leeuwen, 2006).

   The second part of this study examines how L2 learners of German at different proficiency levels engage with the digital game in order to gain understanding of L2 learners' experiences with digital games. The guiding questions for this phase of the research include:
   1. How does a learner's L2 proficiency correlate with their gameplay experience, including their comprehension of the game as text?
   2. How does previous experience with digital games correlate with learners' gameplay?
   3. What are the differences in the gameplay of participants playing individually versus those of participants playing as pairs?

4. How often do learners access supplementary materials during game play? And what is the correlation between proficiency level and number of times learners access those materials?

Multiple measures will be used to explore the above questions. First, approximately 42-54 learners—recruited from lower- and upper-division German courses at the University of Texas (Austin)—will be asked to complete a questionnaire via Qualtrics that elicits demographic information and participants' previous experience playing digital games. Video and audio recorded data from learners' gameplay sessions will be analyzed. Lastly, recall protocols and semi-structured interviews post-gameplay will allow the researcher to investigate participants' understanding of the game's narrative and elicit their reactions to gameplay. The primary goal of the second phase of this research is to determine how off-the-shelf, narrative-driven digital games can be leveraged for effective, holistic language learning. Moreover, the information gleaned from the second phase of this research will contribute to a growing understanding of what language learners experience when playing a game in their L2. Such insights will allow L2 instructors to properly select a game for particular instructional levels and to effectively scaffold their learners' experiences with the game.

4. Procedures

For the purposes of this IRB application, I will focus on the procedures for the second phase of this research project, in which L2 learners of German play through the digital game *The Vanishing of Ethan Carter*.

The primary goal of this phase of the study is to observe and analyze the process of gameplay for L2 learners of German at varying proficiency levels. In order to accomplish this, several different research methods and measures will be employed. First, approximately 42-54 participants from lower- and upper-division German language courses (e.g., GER 612, GER 328, GER 331L, GER 343C, and GER 348D) will be recruited to obtain informed consent. Participants' language proficiency will be determined by their instructional level. After informed consent has been obtained, participants will be assigned partners from the same instructional level and asked to sign up for their first gameplay session.

Before the first gameplay session, demographic data of participants will be collected via a pre-study questionnaire, which will include their previous experiences playing digital games. After completing the pre-study questionnaire, participants will be introduced to the room and equipment (video- and audio recording devices, computer, keyboard, and mouse). Half of the learner pairs at each proficiency level will be given a brief tutorial on the game during the first gameplay session, as well as an introduction to the supplementary resources. The other half will be given the same tutorial during the second gameplay session. The purpose of this is to observe what

learner pairs are able to discover of the game's mechanics without explicit instructions. Participants will then play the game in approximately four one-hour sessions over three weeks until the game has been completed. During each gameplay session, participants will be recorded in three ways. First, a microphone will capture any verbal exchanges. Second, a webcam will record participants' facial reactions to the game. Finally, screen capture software (XSplit) will be used to document participants' in-game actions. These recordings will then be triangulated to form a complete picture of participants' gameplay experiences.

In addition to the recordings, participants will be asked to complete a recall protocol (Bernhardt, 1991; Gass & Mackey, 2000) following each gameplay session. The recall protocols will be completed individually in a written format and will serve to track the participants' evolving understanding of the game's plot.

After completing the game, participants will be given a post-study questionnaire to elicit feedback about their experience (Dörnyei & Taguchi, 2010). Participants will also be asked to conduct a recall protocol, in which they recount the plot of the game in English to the best of their ability. The recounts will be audio recorded for later analysis. Third, participants will be asked to take part in a semi-structured focus group interview to obtain information about their experiences as a group. The semi-structured focus group interview will also be audio recorded. In the case that participants do not want to be audio recorded during the semi-structured focus group interview, handwritten notes will be taken by the primary investigator. The final step of this study will be to analyze and interpret the results. Because the study is largely exploratory, discrete categories for analysis have yet to be determined. However, likely candidates for analysis include:

- Level of completion of the game
- Amount of time passed between narrative-advancing events
- Understanding/interpretation of the game's plot
- Primary resources for making sense of game's plot (e.g., visual, aural, linguistic)
- Level of cooperation between partners
- Areas of the game/game's narrative that prove difficult to navigate/understand

a. Location

Data collection will occur on the University of Texas at Austin campus in Burdine 335, a small room that belongs to the Department of Germanic Studies.

b. Resources

A combination of personal funds and departmental research grants will be used to conduct this research as needed. The computer to be used during gameplay is my

own. It may be necessary to purchase several copies of the game, *The Vanishing of Ethan Carter* ($20).

c. Study Timeline

Data collection will start after IRB approval.

- January 30–February 3: Recruit participants from German courses listed above and obtain informed consent (Appendix A)
- February 6—10: Assign participants to pairs
- February 13—17: Administer pre-study questionnaire (Appendix B) via Qualtrics, record first gameplay sessions, elicit first recall protocol (Appendix D)
- February 20—March 31: Continue gameplay sessions until the game has been completed (likely in 3-4 additional sessions of approx. 1 hour); administer post-study questionnaire (Appendix C) via Qualtrics after final session
- April 3—April 7: Conduct focus group interview (Appendix E)

5. Measures

For the second part of this study, several measures will be employed. The first measure is the pre-study questionnaire, which will be used to collect demographic information about the participants. This includes their name, major, experience with German, and previous experience with digital games, among other factors.

Audio and video recordings of all participants' gameplay sessions will be analyzed post-study for factors such as level of completion of the game and areas of difficulty to participants. Qualitative analysis methodologies (Braun & Braun, 2013) will be adopted in order to make observations about participants' linguistic interactions, either with the game through self-talk or with the other participant in the case of pairs.

The post-study questionnaire will be used to elicit participants' feedback on their experience playing the game.

For the analysis of the recall protocols and the focus group semi-structured interviews, qualitative analysis will once again be employed.

6. Participants

a. Target Population

The target population of participant volunteers for this pilot study will be recruited from GER 612, GER 328, GER 331L, GER 340C, and GER 347L during fall 2016 semester. Participants from these courses will have had two or

more semesters of previous experience with German at UT respectively, or the equivalent from other institutions. I anticipate approximately 42-54 participants total for the study. Anticipated recruitment numbers are outlined below:

- Intermediate (GER 612) = 14-18 participants
- Low-Advanced (GER 328 and 331L) = 14-18
- Advanced (GER 343C and 348D) = 14-18

b. Inclusion/Exclusion

Participants between the ages of 18-50 will be eligible to take part in this study. Participants with known medical conditions, such as photosensitivity, risk of seizures, and/or heart problems, will be excluded from this study as per recommendations made by video game companies. Also, participants who have not completed German 506 or 507 (or the equivalent at another institution) will be excluded.

c. Benefits

Due to increased engagement with German, participants have the opportunity to develop their vocabulary and reading abilities. Participation in this study may also result in an increased motivation to play other digital games in German.

d. Risks

Filling out questionnaires and participating in focus groups pose no significant risks outside of those encountered in everyday situations.

However, gameplay may cause participants to become frustrated if they do not understand the game's mechanics, become stuck, or do not comprehend the game's plot. As a preventative measure, tutorials and walkthroughs of the game will be available to participants.

Participants may also become frightened during certain sections of the game. In one section, players must navigate a dark mine. A miner patrols the mines to keep wanderers out. If the minor catches sight of the player, he will suddenly appear on the screen and transport the player to the beginning of the maze. To minimize these effects, participants will play in pairs, in full daylight. I will also provide them with an information sheet on exactly when to expect the potential jump scare and exactly how to avoid it. Additionally, players will be given the option to skip that particular section of the game and simply read the texts that appear at the end of the puzzle sequence. Participants will, of course, have the option throughout any part of the game to cease playing.

Due to the nature of the detective mystery in which the player attempts to solve a string of murders, participants may feel uneasy or disturbed by the sight of

(animated) blood and some violence, though they only witness such scenes and do not play an active role in them.

In the case that participants need emotional support or health information, they may contact the University of Texas Counseling and Mental Health Center at (512) 471-3515.

e. Recruitment

In order to recruit participants, I will personally visit the German classes listed above to introduce the study and obtain informed consent. The instructor of the class will not be present while I introduce the study and obtain informed consent.

f. Obtaining Informed Consent

I will visit the noted German classes during the fall 2016 semester to present the research, including the potential benefits and risks, and collect informed consent from students interested in participating in the study. Also, at this point, participants will have the opportunity to ask any questions that they might have. All participants may discontinue the study at any time during the semester. Those who do not participate or those who drop out of the study will not be penalized in any way and will not jeopardize their relationship with me, their instructor, the Department of Germanic Studies, or the university.

7. Privacy and Confidentiality

All data collected from this study will be stored in such a way as to not be stolen or otherwise accessed by unauthorized personnel. Personal data will only be used to match questionnaires with gameplay data. In the case that names must be used to present collected data, such as in a case study, participants will be referred to using pseudonyms. Data collected during the course of this study will be kept indefinitely for the purposes of future research.

Confidentiality of the Data or Samples

a. Describe how data or samples (i.e., blood, salvia, tissue, etc.) will be collected.

All data, including the pre- and post-study questionnaires, the audio and video recordings, the recall protocols, and the semi-structured interviews will be collected in person. The pre- and post-study questionnaires will be administered using the program Qualtircs. Audio- and video-recorded data of gameplay sessions will be digitally collected in Burdine 335 using a microphone, a webcam, and a screen capture program (XSplit). Finally, the recall protocols and semi-structured interviews will be audio-recorded in person using a microphone and my personal laptop. All audio- and video-recorded files will be labeled with pseudonyms for the participants.

b. Describe how the data or samples will be securely stored and how you will achieve this.

The pre- and post-study questionnaires will be collected digitally. These digital copies will be stored in three locations: on my personal laptop, on Dropbox (synched through my personal laptop), and on an external hard drive reserved for this study. The laptop and Dropbox are both password protected. The hard drive and the hard copies of the questionnaires will be kept in my office, in a locked desk drawer.

The recordings of participants' gameplay (both screen shots and webcam of participants) will be immediately transferred to the designated external hard drive described above.

The recordings of the post-study focus group will immediately be transferred to the designated external hard drive described above.

c. Provide the length of time the data or samples will be kept.

Data from this study will be kept indefinitely for future research projects.

d. Describe whether data or samples will be kept confidential (i.e., data can potentially be linked to participants) or anonymous (i.e., impossible to link data and participants). You must include if the data or samples will be shared by other researchers for research purposes not detailed in this study.

It may be possible to link the data collected (e.g., demographic data from questionnaires or facial recognition) to the participants. For this reason, all participants will be given pseudonyms and video recordings will not be shared with anyone outside of my dissertation committee and myself in order to ensure confidentiality. Only audio recordings and transcripts may be shared by other researchers for purposes not detailed in this study.

e. If the data or samples will be destroyed, describe when and how the destruction will occur.

Data from this study will not be destroyed so that it may be used in future research projects.

8. Compensation

Participants will not receive financial compensation for taking part in this study. Participants will be offered extra credit for the German class in which they are registered. If participants would like to receive extra credit but do not want to

participate in this study, they may speak with their instructor about completing the alternative extra credit opportunities, which are equivalent in the time and effort required to participate in this study.

Appendix B:
Consent Form

CONSENT FORM

Title: Gaining language XP through story-playing: Meaning-making and L2 learner engagement in a narrative-driven digital game

Researcher: Kristina M. Schoen

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current or future relationships with UT-Austin or participating sites. To do so, simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to examine how students interact with and learn from a digital game in German.

If you agree to be in this study, I will ask you to do the following things:

1. Fill out a short pre-study questionnaire that elicits demographic information and experience with German and video games.
2. Play a digital game in German and allow the researcher to **video-record your gameplay** via screen-capture technology and **audio-record your verbal interactions** during gameplay.
3. Allow the researcher to **video-record your reactions** to playing the video game via webcam and analyze these recordings (separate signature).
4. **Audio-record your verbal description** of the game's plot after playing.
5. Fill out a short post-study questionnaire about your experience playing the digital game.
6. Participate in a brief follow-up focus group about your experience (optional). **This will be audio-recorded.**

Total estimated time to participate in this study is 10-12 hours. This accounts for the time it takes to fill out the pre- and post-study questionnaires (approx. 40 minutes combined), to play the digital game from beginning to end (approx. 4-5 hours), to give a written recount of the game after each session (approx. 40 minutes combined), and the time to participate in the focus group (approx. 1 hour).

Risks of being in the study:
Filling out questionnaires and participating in focus groups pose no significant risks outside of those encountered in everyday situations. However, due to the nature of the video game—a detective-mystery video game in which you are asked to solve a string of suspicious deaths—there are some risks for participating in this study:

- Frustration
- Fear due to a jump scare
- A feeling of uneasiness
- Becoming uncomfortable at the sight of (animated) blood and some violence

This process may involve other risks that are currently unforeseeable. If you wish to discuss the information above or any other risks you may experience, you may ask questions now or contact Kristina M. Schoen (kmschoen@utexas.edu) at any time.

In the case that you need emotional support or health information, please contact the University of Texas Counseling and Mental Health Center at (512) 471-3515.

Benefits of being in the study:
Given that this video game takes place in German, participants may benefit from this study by participating in a project that aims to improve their language learning process.

Compensation: You will be offered extra credit for participating in this study. If you would like to receive credit but do not want to participate in this study, please talk to your instructor about completing the alternative assignment. The alternative assignment should be equivalent in time and effort that would be needed to participate in this study.

Confidentiality and Privacy Protections:
The data resulting from your participation may be shared with the researcher's dissertation committee for consultation purposes. Otherwise, only audio-recorded data, transcripts, and the screen capture video-recorded data will be made available to other researchers in the future for research purposes not detailed within this consent form. Video-recorded data of your reactions during gameplay will not be made available to other researchers. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The **records** of this study will be stored securely and kept confidential. Authorized persons from the University of Texas at Austin and members of the Institutional Review Board (IRB) have the legal right to review your research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researcher will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:
If you have any questions about the study, please ask now. If you have questions later, want additional information, or wish to withdraw your participation, e-mail **Kristina M. Schoen** at kmschoen@utexas.edu. You may also contact **Dr. Cori Crane**, Supervising Professor of this study, at ccrane@austin.utexas.edu. For questions about your rights or any dissatisfaction with any part of this study, you can contact, anonymously if you wish, the Institutional Review Board by phone at (512) 471-8871 or e-mail at orsc@uts.cc.utexas.edu.

You may keep a copy of this consent form.

You are making a decision to participate in this study. Your signature below indicates that you have read the information provided above and have decided to participate in the study. If you later decide that you wish to withdraw your permission to participate in the study, simply tell me. You may discontinue your participation at any time.

_____	_____
Printed Name	Signature
_____	_____
Date	E-Mail
_____	_____
Signature of Investigator	Date

Your signature below indicates that you agree to allow the researcher to video-record your reactions to playing the digital game via webcam.

_____	_____
Printed Name	Signature
_____	_____
Date	E-Mail
_____	_____
Signature of Investigator	Date

Appendix C:
German Game Transcripts

The Vanishing of Ethan Carter

Dieses Spiel ist eine narrative Erfahrung und nimmt dich nicht an der Hand.

Kapitel 1: Fallen im Wald

PAUL PROSPERO:

Ich kannte Ethan Carter nicht. Aber er wusste wer ich war.

Wenn dir die Polizei nicht hilft, und die Priester dir nicht glauben, wendest du dich an Paul Prospero. Du wendest dich an mich.

Wenn du ein Kind wie Ethan bist, schreibst du. Viele tun das.

Ethans Brief begann gleich wie jede andere Fanpost, doch schon bald wurden Dinge erwähnt, von denen kein kleiner Junge wissen sollte.

Es gibt Orte, die nur wenige Leute sehen können. Ethan hätte eine Karte zeichnen können.

Ich hatte das Red Creek Valley noch nicht betreten, aber ich konnte bereits spüren, wie mich die Dunkelheit dieses Ortes heimsuchte.

Um Ethan Carter zu finden, würde es nicht damit getan sein, an seiner Tür zu klopfen. Dafür war es zu spät.

Um Ethan zu finden, musste ich herausfinden, was dieser Ort versuchte, vor mir zu verbergen.

„SAFT“:

Tag für Tag kam ein alter Mann in den Wald, um Saft von den Bäumen zu trinken. Um dorthin zu gelangen, musste der alte Mann an vielen gefährlichen Fallen vorbei. Die Dorfbewohner glaubten, dieser alte Mann würde ein Jadeamulett im Wald verstecken. Doch der alte Mann wollte, dass die Dorfbewohner das glauben. Denn so würden sie im Wald nach einem Schatz suchen und nicht seinen Saft trinken.

In einer kühlen Herbstnacht legte jemand ein Feuer im Wald, das sich bis zum Dorf ausbreitete. Der alte Mann entkam dem Feuer, indem er sich mit Saft bedeckte. Als er zum Dorf zurückkehrte, fand er nur noch die Knochen der Dorfbewohner. Der alte Mann setzte sich hin und weinte. Dann fand er noch mehr Saft.

Dialog zwischen Ethan und Ed:

Ed: *Ethan, ich hab dir doch gesagt, du darfst nicht hier sein.*

Ethan: *Aber Opa, ich habe etwas für dich geschrieben.*

Ed: *Das ist toll. Danke. Leg es einfach dort hin. Ich lese es später.*

Zeitungsartikel:

EIN TOTER BEI HAUSBRAND Von Jeff Jurmu

BAYFIELD COUNTY – Mittwochmorgen wurde ein historisches Haus in Red Creek Valley durch ein Feuer beschädigt, so die Feuerwehr von Bayfield County.

Eine sechsköpfige Familie schlief, als der Brand in dem abgelegenen Haus in 46 Old Odgen Road in Creek Valley ausbrach, das früher Albert Vandegriff gehörte. Gayle Carter (58) wurde noch am Unfallort für tot erklärt. Die übrigen Familienmitglieder konnten entkommen. Carters Ehemann Edwin (62) erzählte den Ermittlern, er sei womöglich mit einer angezündeten Zigarette in seiner Hand eingeschlafen.

Feuerwehrleute wurden um 01:22 Uhr zum Unfallort geschickt und verblieben dort bis Mittwoch um etwa 05:00 Uhr. Vier Stunden später kehrten sie zu dem Anwesen zurück, um Glutnester zu löschen, die wieder entfachten.

Beim Entstehungsbrand half die freiwillige Feuerwehr der Gemeinde Ashland. Der Rettungsdienst von Masonville war am Unfallort in Bereitschaft.

Rückseite des Zeitungsartikels:

NACH HITZIGER ÖFFENTLICHER ANHÖRUNG NOCH KEINE ANTWORTEN FÜR VANDEGRIFF-ERBEN von Tom Auten

BAYFIELD COUNTY – Mitglieder der Familie Vandegriff versammelten sich heute erneut im Gericht von Bayfield County, um über das Vandegriff-Vermögen zu verhandeln, das seit 1964 treuhänderisch verwaltet wurde, als Albert Vandegriff im Alter von 71 Jahren bei einem Grubenunglück ums Leben kam. Die Nachwirkungen zerstörten beinahe Vandegriff Industrial und schadeten der lokalen Wirtschaft schwer.

James Vandegriff (38) aus Chicago behauptete, die Ansprüche seines Vaters wären „unverschämt“ gewesen und viele Vandegriff Familienmitglieder hätten „persönliche Gründe“, nicht in Red Creek Valley auf dem Vandegriff-Anwesen

zu leben, wie im Testament des älteren Vandegriff festgelegt. Das Feuer, bei dem das Vandegriff-Anwesen vor Kurzem beschädigt wurde, so sagt er, hat die Bedenken seiner Familie noch weiter hervorgehoben. Seit 1967 lebte die Familie Carter auf dem früheren Vandegrif-Anwesen als Hausverwalter.

Kapitel 2: Mord auf dem Bahngleis

PAUL PROSPERO:

Red Creek Valley. Schien wie ein ruhiger, gewöhnlicher Ort.

Ich habe zwei Dinge in meinem Leben gelernt. Kein Ort ist wirklich ruhig und nirgendwo ist es wirklich gewöhnlich.

Ethan hatte mich davor gewarnt. Warnte mich, mich nicht davon täuschen zu lassen, was ich hier sah.

Er musste sich keine Sorgen machen. Ich habe schon Dutzende Fälle gelöst. Hunderte. Das würde mein letzter werden.

Szene mit Ethan, Ed und Travis:

1. **Ethan:** *Travis! Hör mir zu. Wir können ihn zerstören! Ich weiß wie!*

Travis: *Du kannst ihn nicht zerstören, Ethan. Du kannst die Zeit nicht zerstören. Und das ist er. Er ist die Ewigkeit.*

2. **Ed:** *Gayle, Schatz. Ich wünschte, es gäbe einen anderen Weg.*

3. **Ed:** *Travis. Sag mir, wo Ethan ist. Jetzt.*

Travis: *Ich gebe dem Schläfer das, was er verlangt. Was alle von uns wollen. Komm schon, alter Mann. Geh einfach nach Hause.*

4. **Travis:** *...Nein!*

5. **Ed:** *Ethan, lauf endlich davon! Los! Verschwinde von hier!*

6. **Ed:** *Travis, mach deine Augen zu.*

PS **Ethan:** *Opa! Warte. Komm nicht näher!*

Ed: *Ethan, auch ich bin krank. Ich fühle den Schläfer in meinem Kopf.*

Ethan: *Dann kämpf gegen ihn an! Ich muss das Zimmer zerstören!*

Ed: *Corvus...Es tut mir leid, Ethan. Das kann ich nicht zulassen.*

PAUL PROSPERO:

Was auch immer Ethans Familie dazu brachte, sich gegen ihn zu wenden, sein Großvater versuchte, sich dagegen zu wehren.

Alter schützt vor Dingen, die sich von Hass ernähren.

Nicht auf Grund von Weisheit oder Erfahrung.

Sondern weil alte Menschen müde sind. Ihr Hass ist weniger nützlich.

Kapitel 3: Astronaut-Jagd durch den Wald

„FANGZÄHNE“:

Die Bestie hatte Fangzähne, war aber schwer und langsam. Als sie das Licht am Himmel sah, wartete sie und dachte, das Licht würde ausgehen wie die anderen davor. Als das nicht geschah, stand die Bestie auf und ging zu dem Ort, an dem das Feuer noch immer brannte.

Als das orangefarbene Licht erlosch, nahm ein neues seinen Platz ein. Dieses war blau, ein helles und reines Blau, dass das Geschöpf bisher nur bei den Rändern von Sternen sah. Die Bestie zeigte ihre Fangzähne und das Licht verschwand.

Kurz darauf tauchte das Licht zwischen zwei entfernten Bäumen wieder auf. Die Bestie wollte nach Hause gehen, konnte das Licht aber nicht ignorieren. Deshalb verfolgte sie es tiefer in den Wald.

Das Licht blieb schließlich auf einer Waldlichtung stehen. Die Bestie betrat den Kreis und spurte dabei keinerlei Furcht. Die Bäume wendeten sich der Bestie zu, zeigten wie Nadeln auf sie, doch die Baumwipfel neigten sich und gruben in den Boden. Die Stämme und Wurzeln wurden in die Luft gehoben und wie Mauern um die Bestie geschlossen.

Als der Boden verschwand, begriff die Bestie, dass sie ihre Fangzähne nie wieder benutzen würde.

Dialog zwischen Ethan und Travis:

Ethan: *Verschwinde aus meinem Zimmer, Travis!*

Travis: *Geschichten. Geschichten. Immer deine Geschichten*

Ethan: *Verschwinde!*

Travis: *Ich habe „Fangzähne“ gelesen. Ich mochte die Bestie. Zumindest konnte sie diesen verdammten Ort verlassen.*

Zeitschrift:

ABSTRUSE GESCHICHTEN

Amerikas beste Science Fiction!

Januar 1964, 40¢

Mit „Yellow Hills of Mars“ von Douglas Spaulding

Sowie: Julian West, Michael Arden, Clarence Carlisle und viele mehr!

(Travis Entstellung): Homofürst!!!

Kapitel 4: Im öden Haus

PAUL PROSPERO:

Hier fuhren schon lang keine Züge mehr. Das war Teil eines Musters.

Große Teile dieses Landes wurden weggeworfen, dazu verdammt, die schlechteste Version ihrer selbst zu werden und dann zu bleiben.

Unter all dieser Verderbnis wachsen dunkle Dinge heran.

Auf der Rückseite des Fotos:

Der Tag, an dem das Foto gemacht wurde...

Onkel Chad war gemein

Papa war traurig

Mama war wütend

Travis war laut

Opa war ruhig

Dialog zwischen Chad und Missy:

Chad: *Du kannst es spüren, oder? Da ist etwas. Irgendetwas kommt aus dem Vandegriff-Haus.*

Missy: *Ich kann es spüren. Ethan hat den Schläfer gestört. Er muss bestraft werden.*

Dialog zwischen Missy und Ethan:

Missy: *Was hast du getan? Was hast du erweckt?*

Ethan: *Nichts! Ich habe ein Zimmer gefunden. Habe es betreten. Sonst nichts!*

Dialog zwischen Missy und Dale:

Missy: *Du musst mit deinem Sohn reden. Er hat wieder im alten Vandegriff-Haus herumgestöbert. Sagte, er hätte ein „Geheimzimmer“ gefunden.*

Dale: *Ah, wirklich? In Ordnung, ich werde mal mit ihm reden.*

Dialog zwischen Dale und Ed:

Dale: *Dad, es wird immer schlimmer. Sie reden ständig von diesem Ding, diesem Schläfer.*

Ed:: *Ich weiß. Ich weiß aber nicht, ob er real ist.*

Dialog zwischen Dale und Travis:

Dale: *Travis, lass den Jungen in Ruhe. Ich merke doch, wie du ihn ansiehst.*

Travis: *Du weißt nicht einmal davon, oder? Du hast keine Ahnung, was hier vor sich geht.*

Dialog zwischen Travis und Dale:

Travis: *Du musst uns helfen. Das ist unsere einzige Möglichkeit. Er will Ethan.*

Dale: *Du bist verrückt. Ihr seid alle verrückt geworden.*

Ethan:

Ethan: *Es ist nicht meine Schuld! Ich wollte nicht, dass das alles passiert!*

PAUL PROSPERO:

Ethans Familie machte ihn verantwortlich.

Was auch immer es war, was er versehentlich freigelassen hatte, seine Familie war überzeugt, würden sie ihm etwas antun, wäre das Problem gelöst, wären ihre gestörten Gemüter besänftigt.

Was auch immer die Carters heimsuchte, war noch immer hier, irgendwo im Wind.

Kapitel 5: Der Zauberer

Die Notiz:

Ich beschwöre den Knochenlosen, den Einen der Leeren, den Zerstörer der Schiffe und den, den die Winde fürchten. Hört mich!

Großer Gesandter Focalor, ich möchte einen Pakt mit Euch schließen, um meine Feinde zu verwirren und meine Besitztümer zu beschützen! Nutzt die Tore der Verwirrung, um ihr Urteil zu trüben! Versiegelt den Weg mit Falschheit und List, und gewährt nur denjenigen Zutritt, die das echte Innenleben erkennen können!

Aglon, Tetragram, vaycheon stimulamaton ezphares Tetragrammaton, olyaram irion esytion existion eryona onera orasim mozm messias soter Emanuel Sabaoth ADONAY, te adoro et te invoco. Amen.

DER ZAUBERER:

Einst lebte ein Zauberer in einem alten Haus und bereitete Tränke zu, mit denen er in die Zukunft sehen konnte. Die Leute aus dem Dorf kamen zum Haus des Zauberers und verlangten von ihm, seine Tränke mit ihnen zu teilen. „Wir möchten auch in die Zukunft sehen“, sagten sie ihm. Aber der Zauberer sagte nein.

Die Leute aus dem Dorf wurden wütend und verbrannten das Haus des Zauberers. Doch der Zauberer wusste, dass das geschehen würde. Er hatte seinen Trankraum bereits mit einem Zauber belegt. Das Haus brannte, der Raum aber nicht. Die Leute aus dem Dorf warteten, doch der Zauberer kam nie heraus.

Dialog zwischen Ethan und Chad:

Chad: *Was machst du da? Spionierst du mir nach?*

Ethan: *Nein!*

Chad: *Nicht. Was stimmt eigentlich nicht mit dir?*

Ethan: *Nichts.*

Chad: *Hör auf, deine Geschichten überall liegen zu lassen. Sie machen jeden hier wahnsinnig.*

Zeitungsartikel:

BRAND LEGT ALKOHOLSCHMUGGEL FREI

Von Daniel Josefson

BAYFIELD COUNTY – Feuerwehrleute der freiwilligen Feuerwehr der Gemeinde Ashland entdeckten eine offensichtliche Schwarzbrennerei, während sie in den Wäldern von Old Odgen einen Brand bekämpften.

Den Beamten zufolge beinhaltete die Brennerei einen Propanofen und einen vier Gallonen fassenden rostfreien Stahltopf, der zur Aufbewahrung der Whiskey-Maische verwendet wurde. Auf Grund der Größe der Brennerei glaubt Bayfield Country Sheriff Hank Shafel, es könne sich dabei um einen Teil eines Alkoholschmuggelvorhabens handeln, obwohl er zugab, dass „es im County noch weitere Brennereien geben könnte".

Polizisten vor Ort bargen eine halbe Gallone schwarzgebrannten Apfelschnaps und eine Gallone geschmacklosen Schnaps. Apfelwein und Zimtstangen wurden auch neben der Brennerei gefunden.

Die Polizei konnte noch nicht feststellen, wem die Brennerei gehört.

Rückseite des Zeitungsartikels:

NASA STARTET ATS-6-SATELLITEN

Von der Associated Press

CAPE CANAVERAL, Fla. – NASA startete heute in Florida den weltweit ersten so genannten Bildungssatelliten und verleiht den Vereinigten Staaten dadurch einen mächtigen Vorsprung in der Telekommunikationstechnik.

Der Applications Technology Satellite-6 überträgt direkt Bildungsprogramme in mehreren Ländern, wie die Vereinigten Staaten, Kanada, Indien und Australien. Die NASA glaubt, der Satellit würde mindestens die nächsten fünf Jahre in ständigen Kontakt mit der Erde bleiben.

Kapitel 6: Der Hexenwald

DIE HEXE:

Menschen besuchen mich aus vielen Gründen. Hauptsächlich aber möchten sie mir Fragen stellen. Fragen über die Zukunft.

Aber ich kann die Zukunft sehen. Darum interessiert mich nur die Vergangenheit.

Wenn du mein Haus finden willst, musst du meine Fragen über dich beantworten.

Fühlst du dich als Sieger, wenn deine Worte Schmerzen verursachen?

Bewunderst du Diebe wegen ihres Mutes oder ihrer Gier?

Bringt uns der Tod Frieden oder Leid?

Nimmst du etwas von dem du weißt, dass du es nicht zurückgeben wirst?

Wird Verrat durch Ungleichheit oder Ungerechtigkeit verursacht?

Entspringt die Sünde dem Herzen oder dem Verstand?

DIE GESCHICHTE DER HEXE:

Eine wunderschöne Frau saß am Fluss. Eine Hexe näherte sich und sagte der Frau, dass sie ein Kind bekommen würde. Die Frau begann vor Freude zu weinen. Doch als die Freude in Angst umschwenkte, konnte sie nicht aufhören zu weinen. Die Angst wurde zu Traurigkeit und die Frau weinte weiter. Sie weinte monatelang und schlief kaum, bis ihr Kind geboren war. Doch das Weinen ließ die Frau altern und ihre Schönheit vergehen. Als ihr Sohn alt genug war, kletterte er auf den Berg, um das Haus der Hexe zu finden. Er fragte sie, ob sie seine Mutter wieder wunderschön mach könne.

Die Hexe stellte dem Jungen viele Fragen. Nachdem sie die Antworten gehört hatte erzählte sie dem Jungen, dass sie seine Mutter bezüglich des Kindes angelogen hatte. Der Junge verschwand und die Mutter war wieder wunderschön.

Dialog zwischen Missy und Ethan:

Missy: *Ethan, der Sinn des Lebens besteht nicht darin, allen Ärger zu bereiten. Versuch einfach nur normal zu leben. Nicht in deinem Kopf. Mach etwas Reales. Darauf sprechen die Menschen an. Auf die Realität.*

Notiz von Ethans Mutter:

Ethan, Liebling...es tut mir Leid, dass ich dich angeschrien habe. Ich möchte, dass du diese Notiz behältst und sie immer liest, wenn ich meine Beherrschung verliere. Ich meine es nicht so, und ich weiß, dass ich eine gespaltene Zunge habe. Du bist mein kleiner Kumpel, mein kostbares Böhnchen. Du musst einfach dienen Kopf aus diesen Wolken ziehen, okay?

Kapitel 7: Mord auf dem Friedhof

Szene mit Missy, Dale, Chad, Travis und Ethan:

1. Dale: *Unser Sohn. Chad legt unseren Sohn in diese Gruft.*

Missy: *Und er wird sie zumauern. Er wird ihn dem Schläfer überlassen. Für immer.*

2. Dale: *Du weißt, dass er harmlos ist. Du weißt, dass es falsch ist.*

Missy: *Chad, mach die Mauer fertig, bevor er aufwacht.*

3. Missy: *Chad, lass mich sehen.*

Chad: *Geh weg von mir. Das ist Dales Schuld. Er hätte helfen sollen.*

Missy: *Dale ist ein Schwächling. Er war schon immer einer.*

Chad: *Du hast Recht. Er ist ein Schwächling.*

4. Missy: *Chad, geh von ihm runter! Er ist dein Bruder! GEH VON IHM RUNTER!*

Dale: *Oh mein Gott.*

5. Travis: *Was zum Teufel ist hier los? Wo ist Ethan?*

Missy: *Der Schläfer darf nie schlafen.*
Dein Onkel ist tot.
Krähen...Ethan.

PS Dale: *Das ist nicht richtig. Ethan ist unser Sohn.*

Ethan: *Dad, ich muss in die Mine gelangen.*

Dale: *Die Mine? Mein Schlüssel. Ich habe ihn nicht bei mir.*

Ethan: *Dann muss ich wohl den Tunnel in der Nähe des Tors nehmen. Halte einfach Mom von mir fern, in Ordnung? Sie ist krank. Ihr seid alle krank.*

PAUL PROSPERO:

Der Schläfer darf nicht schlafen...Ethan muss etwas gestört haben.

Was auch immer es war, es entwich, in die Luft und in das Gedächtnis seiner Familie.

Kapitel 8: Mord in der Mine

PAUL PROSPERO:

Was die Toten zu sagen haben? Du wärst überrascht, wie wenig sie wissen.

Die Toten können nicht erklären, was es heißt, tot zu sein.

Sie gehen Treppen hinunter, die unter ihren Füßen verschwinden, auf eine helle Lichtung von Erinnerungen zu, die sie nie erreichen.

Szene mit Dale, Missy und Ethan:

1. **Dale:** *Schatz, er ist wahrscheinlich davongelaufen. Warum hätte er das nicht tun sollen? Warum sollte er genau hier sein?*
   Mist. War wahrscheinlich nur ein Waschbär!

   Missy: *Nein. Nein, das glaube ich nicht.*

2. **Dale:** *Er ist nur ein Kind! Er hat niemanden „gestört“! Er hat einfach ein Zimmer in einem alten Haus gefunden! Sonst nichts!*

   Missy: *Unser Junge ist der Preis. Ich werde nach oben fahren. Der Schläfer darf nicht schlafen.*

3. **Missy:** *Er kann nicht entkommen. Es ist Zeit, dass der Schläfer erwacht!*

   Dale: *Missy, hör dir mal selbst zu!*

   Missy: *Nein, ich sehe alles so deutlich. Der Schläfer wohnt in mir.*

   Dale: *Du bist krank. Wir sind alle krank.*

   Missy: *Dale, was tust du?*

4. **Missy:** *Dale! Dale, was ist das?*

   Dale: *Ich.....bringe etwas in Ordnung.*

5. **Missy:** *Dale! Du verdammter Feigling! Lass mich hier raus! Der Schläfer verlangt es! Der Schläfer muss erwachen! Der Schläfer muss erwachen! Der Schläfer muss...*

PS **Ethan:** *Wo ist Mom? Ich habe sie doch gehört.*

Dale: *Sie...sucht noch nach dir. Du musst jetzt gehen. Los, hier entlang.*

Ethan: *Durch das Wasser? Es sieht so aus, als ob es kochen würde.*

Dale: *Ah, nein, nein. Es ist nur eine chemische Reaktion. Es kocht nicht wirklich.*

Travis: *(In der Ferne) Mom! Mom, wo bist du?!*

Dale: *Ich kümmere mich um deinen Bruder. Geh einfach. Los!*

PAUL PROSPERO:

Er hat seine Frau nicht getötet. Sie war nicht mehr dieselbe, die sie einmal war. Genauso wenig wie er.

Irgendetwas bediente sich all dieses Schmerzes und Todes.

Irgendetwas wurde stärker.

Kapitel 9: Der alte Gott

(Warnung: This scene contains jump scares.)

Die Warnung:

Siehst du diese Warnung, geh nicht weiter
Siehst du diese Warnung, ist unser Ritual fehlgeschlagen.
Siehst du diese Warnung, bleibt das Seemonstertor verschlossen.

Das Gedicht:

Er ist nicht tot, der ewig liegt.
Der Gott der Urzeiten hat die Zeit besiegt.
Lasst öffnen uns das alte Tor und schleifen,
während des Wächters Blicke in die Ferne schweifen.
Ruft unseren Gott, den einzig wahren,
er, der nicht sollte sein, trägt einen Namen.

„DER FLUCH DES SEEMONSTERS“:

Das Henochische Necronomicon! Die Eisenerz-Bergarbeiter haben es endlich gefunden! Doch nicht alle von ihnen wollten sein Ritual durchführen und das Seemonster Gnaiih beschwören. Ein Bergarbeiter bemerkte, dass das Ritual Gnaiihs Flut auf diese Welt entfesseln würde. Und so hatte der Bergarbeiter keine andere Wahl als die anderen mit magischen Eltdown-Scherben zu erstechen. Gnaiih verfluchte daraufhin den Bergarbeiter, der nur die Mine durchstreift, dazu verdammt, andere daran zu hindern, das Seemonster zu beschwören und die Welt für immer zu überfluten.

Dialog zwischen Dale und Ethan:

Dale: *Ethan, du sollst doch draußen bleiben! Verdammt nochmal. Hier ist es gefährlich. Ich werde deine Geschichte später lesen. In Ordnung? Und bitte sag deiner Mutter nicht, dass ich hier drinnen bin, okay? Gut, geh jetzt. Ab nach Hause mit dir!*

Brief an Dale:

Re: BITTE UM STELLUNGNAHME

Sehr geehrter Mr. Carter,

das Amerikanische Patent- und Markenamt hat Ihren Brief vom 27. Januar 1973 bekommen, in dem sie um „weitere Stellungnahme“ bitten, weshalb Ihr kürzlich eingereichtes Patent 527F2d von diesem Amt abgelehnt wurde. Wie wir schon in unserem letzten Brief erklärt haben, wurde das patent auf Grund der Verletzung eines bereits existierenden Patents abgelehnt.

In den letzten sechzehn Wochen haben wir über vier Dutzend angeforderte Patente von Ihnen dokumentiert. Keines davon ging durch und auf alle haben Sie bestanden. Mr. Carter, wir würden diese und zukünftige Angelegenheiten gern als erledigt betrachten.

Mit freundlichen Grüßen

James Maki, Verwaltungsdirektor

Notiz von Missy an Dale:

Dale:

SCHAFF DEIN ZEUG AUS MEINEM KELLER. BRING ES ZUR VERDAMMTEN MÜLLHALDE. Ich habe es so satt, auf dem Weg zur Waschmaschine über dein misslungenes Leben zu steigen. Ich meine es ernst. Entweder es kommt weg, oder ich verbrenne es.

Kapitel 10: Der Damm

PAUL PROSPERO:

Ich konnte zwei Arten von Dunkelheit hier im Red Creek Valley spüren.

Die erste war die, der man begegnet und der man mit etwas Glück wieder entkommt.

Doch die andere Dunkelheit war tiefer, beharrlicher, unerkennbar. Und sie wollte, dass ich diesen Ort verlasse.

Szene mit Travis und Dale:

1. Travis: *Wo ist meine Mutter? Warum stehst du dem Schläfer im Weg?*

Dale: *Sie hatte einen Unfall. Travis, leg die Axt nieder.*

2. Travis: *Einen Unfall?*

Dale: *Ich wollte nicht, dass ihr etwas passiert. Wir sind alle...krank...weißt du? Seitdem Ethan dieses Zimmer gefunden hat.*

3. Travis: *Wo ist Ethan? Verdammt. Sag es mir!*

Dale: *Okay, okay! Er will Vandegriffs Zimmer verbrennen. Travis, lass mich...lass mich einfach in Ruhe!*

4. Travis: *Der Schläfer erwählt seine Helfer, weißt du. Um seine Wünsche zu erfüllen. Er wählte Mom. Er wählte mich.*

5. Dale: *Sohn, ich möchte dir nicht wehtun!*

Travis: *Glaubst du, dass dich eine Schere retten wird?*

Dale: *Ja.*

Travis: *Soweit hätte es nicht kommen müssen. Du hättest dem Schläfer helfen können. Uns helfen können. Aber Mom hat Recht. Du bist ein Feigling. Und bald wirst du Ethan wiedersehen.*

PS Travis: *Du hast ihn gestört. Nicht ich.*

Ethan: *Travis, wir können ihn loswerden! Ich weiß, womit wir es zu tun haben! Ignoriere die Stimme in deinem Kopf.*

PAUL PROSPERO:

Dieser...Schläfer zehrte von ihnen. Ihrem Hass. Ihrem Misstrauen.

Ethans Vater nahm an, Selbstmord würde es nicht sättigen.

Doch das tat es. Ich konnte spüren, wie es irgendwo da draußen saß, fett wie ein Ochsenfrosch, und verdaute.

Kapitel 11: Das Vandegriff Haus

PAUL PROSPERO:

Ethan war ganz nah. Ich konnte ihn spüren, einen Flecken Licht in der Dunkelheit.

Er würde mich erkennen. Er würde wissen, wieso ich gekommen bin.

1. verbrannter Text:

Ich versuchte, sie einzumauern, aber sie wehrte sich. Am Ende konnte ich es nicht tun. Nicht meine Frau. Weder sie noch der Schläfer ist zufrieden. Jetzt muss ich entscheiden, vor wem ich mich mehr fürchte.

2. verbrannter Text:

Ich bin nicht ich selbst. War nicht ich selbst. Heute wieder Stimmen. Gleich wie gestern. Das ist äußerst ärgerlich.

3. verbrannter Text:

Was ich tun muss, ist mir jetzt klar. Der Schläfer verweilt in einem Gefängnis des Todes und Schmerz ist der Schlüssel.

Szene mit Ethan und Ed:

1. **Ed:** *Ethan, ich habe ihn bekämpft. Alles ist in Ordnung.*

   Ethan: *Opa, bleib weg von mir!*

   Ed: *Deine Oma, Gayle, beschützt mich. Ethan, ich kann dir helfen.*

2. **Ethan:** *Ich habe Vandegriffs Tagebuch gefunden. Er sagte, dass jemand leiden muss um den Schläfer zu erwecken. Sieh mal! Als ich dieses Zimmer gefunden habe, habe ich ihn gar nicht aufgeweckt. Er versucht jetzt zu erwachen. Vandegriff hielt seine Opfer am Leben. Er hat sie leiden lassen! Genau das möchte der Schläfer.*

3. **Ed:** *Wir müssen in dieses Zimmer gelangen.*

4. **Ethan:** *Ich kann mich durchzwängen.Opa, nein!*

5. **Ed:** *Gayle, es muss so sein. Der Schläfer darf nicht erwachen. Es wird nichts helfen, den Raum niederzubrennen, Ethan. Der Schläfer ist jetzt in uns.*

Ethan: *Opa, geh zurück!*

Ed: *Wir müssen alle sterben. Nicht nur du. Auch ich.*

Kapitel 12: Das Ende

Dialog zwischen Paul Prospero und Ethan:

Prospero: *Ethan, wach auf. Nun, Junge. Du hast es geschafft. Es war schrecklich, aber du hast es geschafft.*

Ethan: *Paul Prospero. Bist du...bist du wirklich hier?*

Prospero: *Es tut mir Leid, Ethan. Ich kam spät. Zu spät.*

Ethan: *Das warst du. Du warst zu spät.*

Neue Szene:

PAUL PROSPERO:

Schon wieder dieser Ort. Ich kannte diese Geschichte. Es war ebenso Ethans Geschichte wie meine.

Und sie war nicht zu Ende. Noch nicht.

Szene mit der ganzen Familie:

Travis: *Himmel, Ethan! Bist du schon wieder hier drinnen? Du hast das Abendessen versäumt! Mom und Dad sind sauer. Sie haben überall nach dir gesucht!*

Ethan: *Verschwinde, Travis! Lass mich in Ruhe.*

Travis: *Hey, Ma, er ist hier drinnen!*

Dale: *Schatz, sei bitte vorsichtig mit der Lampe.*

Chad: *Dale, was zum Teufel ist mit deinem Kind los? Beschmiert die Wände und schreibt Geschichten. Ich mein was zum Teufel!*

Missy: *Ethan, um Himmels Willen. Du warst nicht beim Abendessen.*

Ethan: *Es tut mir Leid. Ich arbeite den ganzen Tag schon an einer Geschichte. Wie lang bin ich denn schon hier?*

Travis: *Die Abenteuer von Paul Prospero, übernatürlicher Detektiv. Wie kommt man nur auf sowas?*

Dale: *Dad, könntest du Travis bitte von hier rausholen?*

Chad: *Er beschmiert die Wände! Was zur Hölle soll das sein?*

Dale: *Halt die Klappe, Chad!*

Chad: *Dale, dein Sohn ist eine Schwuchtel.*

Ed: *Travis, komm schon, lass uns gehen.*

Travis: *Schwuchtel. Ethan, du bist eine Schwuchtel!*

Missy: *Travis, hör auf damit!*

Travis: *Scheiße. Scheiße!*

Missy: *Los! Wir müssen hier alle raus!*

Dale: *Ethan, komm raus! Der Rauch ist giftig!*

Travis: *Oh Gott. Oh Gott!*

Chad: *Was sollen wir tun? Was sollen wir tun?*

Ed: *Wir können nicht hier bleiben!*

Dialog zwischen Ethan und Paul Prospero:

Ethan: *Ich habe über dich geschrieben. Aber ich weiß nicht, ob ich dich erschaffen habe.*

Prospero: *Du hast mich ins Leben gerufen.*

Ethan: *Ich kann noch nicht weg. Ich muss deine Geschichte zu Ende schreiben. Ich habe über jeden eine Geschichte geschrieben.*

Prospero: *Ich weiß. Aber meine Geschichte ist fertig. Und es ist eine gute Geschichte.*

Ethan: *Ich kann also loslassen?*

Prospero: *Ja, das kannst du.*

Ethan: *Und was geschieht dann?*

Prospero: *Eine weitere Geschichte, Junge. Was sonst?*

Appendix D:
English Game Transcripts

The Vanishing of Ethan Carter

This game is a narrative experience that does not hold your hand.

Chapter 1: Traps in the Woods

PAUL PROSPERO:

Ethan Carter I didn't know. But he knew who I was.

When the police won't help you, and the priests don't believe you, you call on Paul Prospero. You call on me.

If you're a kid like Ethan, you write. Plenty do.

Ethan's letter started out just like any other fan mail, but soon there were mentions of things no little boy should know about.

There are places that exist that very few people can see. Ethan could have drawn a map

I hadn't entered Red Creek Valley yet, but already I could feel its darkness reaching out for me.

Finding Ethan Carter wasn't going to be as easy as knocking on his door. I was too late for that.

To find Ethan, I had to figure out what this place was trying to hide from me.

"SAP":

An old man came to the forest every day to drink sap from the trees. To get there, the old man had to step around many dangerous traps. The villagers believed this old man had hidden a jade amulet in the forest. But the old man wanted the villagers to believe this, because then they would search the forest for treasure and not drink his sap.

One cool fall night, someone set fire to the forest, and the fire spread to the village. The old man escaped the fire by covering himself in sap. When he returned to the village, he found all the villagers' bones. The old man sat down and cried. Then he found more sap to drink.

Dialogue between Ethan and Ed:

Ed: *Ethan, I told you – you can't be here!*

Ethan: *But Gram – I wrote something for you.*

Ed: *That's real nice. Thank you. Just leave it. I'll read it later.*

Newspaper Article:

ONE DEAD IN HOUSE FIRE By Jeff Jurmu

BAYFIELD COUNTY – Fire damaged a historic home in Red Creek Valley Wednesday morning, according to officials from the Bayfield County Fire Department.

A family of six was asleep when the blaze broke out at the remote house, once owned by Albert Vandegriff, at 46 Old Ogden Road in Red Creek Valley. Gayle Carter, 58, was pronounced dead at the scene. Remaining family members were able to escape. Carter's husband, Edwin, 62, told investigators he may have fallen asleep with a lit cigarette in his hand.

Firefighters were dispatched to the scene at 1:22 a.m. and remained at the scene until around 5 a.m. Wednesday. They returned to the property four hours later to extinguish hot spots, which had rekindled.

Assisting at the initial fire was the Ashland Township Volunteer Fire Department. Masonville Emergency Medical Services was on standby at the scene.

Back of Newspaper Article:

AFTER HEATED PUBLIC HEARING, NO ANSWERS FOR VANDEGRIFF HEIRS by Tom Auten

BAYFIELD COUNTY – Members of the Vandegriff family again gathered in the Bayfield County Courthouse today to debate the fate of the Vandegriff fortune, which has remained in escrow since 1961, when family patriarch Albert Vandegriff, 71, died in a mine accident, the aftereffects of which nearly destroyed Vandegriff Industrial and severely damaged the local economy.

James Vandegriff, 38, of Chicago, argued that his father's demands were "unreasonable," and that many Vandegriff family members have "personal reasons" for wanting to avoid living in Red Creek Valley on the Vandegriff estate, as stipulated in the elder Vandegriff's will. The recent fire in which the Vandegriff home was damaged, he said, only underlined his family's concerns.

Chapter 2: Murder on the Train Tracks

PAUL PROSPERO:

Red Creek Valley. Seemed like a quiet, ordinary place.

I've learned two things in my life. No place is truly quiet, and nowhere is really ordinary.

Ethan warned me about that. Warned me not to be fooled by what I saw here.

He didn't need to worry. I'd worked dozens of cases. Hundreds. This would be my last one.

Scene with Ethan, Ed, and Travis:

1. **Ethan:** *Travis! Listen to me. We can destroy it! I know how!*

Travis: *You can't destroy it, Ethan. You can't destroy time. And that's what he is. He is forever.*

2. **Ed:** *Gayle, honey – I wish there was another way.*

3. **Ed:** *Travis. Sag mir, wo Ethan ist. Jetzt.*

Travis: *I'm giving the sleeper what he wants. What all of us want. Look, od man – you need to go home*

4. **Travis:** *No!..*

5. **Ed:** *Ethan, run goddammit! Go! Get out of here!*

6. **Ed:** *Travis, close your eyes!*

PS **Ethan:** *Grandpa!...Stay away!*

Ed: *Ethan, I'm sick, too. I can feel the sleeper in my head.*

Ethan: *Then fight it! I have to destroy the room!*

Ed: *Corvus…I'm sorry, Ethan. I can't let you do that.*

PAUL PROSPERO:

Whatever had turned Ethan's family against him, the grandfather was trying to resist.

Age helps against those things that feed on hate.

Not because of wisdom, or experience.

Because the old are tired. Their hate is less useful.

Chapter 3: Astronaut Chase through the Woods

"FANGS":

The beast had fangs, but was heavy and slow. So when it saw the light in the sky, it waited, thinking the light would go out, like the others before it. When it did not, the beast rose up on its legs and went to the place where the fire was still burning.

As the orange light died, another took its place. This one was blue, a bright and pure blue that the creature had only seen along the edges of the stars. The beast showed its fangs and the light vanished.

A moment later, the light appeared again between two distant trees. The beast wanted to go home, but could not ignore the light. So it chased it deeper into the forest.

When the light stopped, it did so in a clearing of trees. The beast entered the circle, feeling no fear. The trees turned toward the beast, pointing at it like needles, but the tops of the trees lowered and dug into the ground. The trunks and roots were raised into the air and closed around the beast like walls.

As the ground disappeared, the beast realized it would never use its fangs again.

Dialogue between Ethan and Travis:

Ethan: *Get out of my room, Travis!*

Travis: *Stories. Stories. Always with the stories.*

Ethan: *Get out!*

Travis: *I read the "Fangs" one. I liked the beast. At least he gets to leave this goddamn place.*

Magazine:

ABSTRUSE TALES

America's Finest Science Fiction!

January 1964, 40¢

Featuring "Yellow Hills of Mars" by Douglas Spaulding

Plus: Julian West, Michael Arden, Clarence Carlisle and many others!

(Travis's defacement): GAYLORD!!!

Chapter 4: In the Deserted House

PAUL PROSPERO:

No trains had been through here for a long time. That was part of a pattern.

Large pieces of this country were away, doomed to become, and then remain, the worst versions of themselves.

Beneath all that rot dark things grow.

Back of Photo:

On the day the photo was taken…

Uncle Chad was mean

Dad was sad

Mom was mad

Travis was loud

Gramp was quiet

Dialogue between Chad and Missy:

Chad: *You can feel it, right? Something – something coming from the Vandegriff house.*

Missy: *I can feel it. Ethan disturbed the sleeper.*

Dialogue between Missy and Ethan:

Missy: *What did you do? What did you wake up?*

Ethan: *Nothing! I found a room. I walked into it. That's it!*

Dialogue between Missy and Dale:

Missy: *You need to talk to your son. He was poking around in the old Vandegriff house again. Said he found some "secret room"*

Dale: *Oh, really? Okay, I will go talk to him.*

Dialogue between Dale and Ed:

Dale: *Pop, they're getting worse. They keep talking about this thing, this "sleeper."*

Ed:: *I know. What I don't know is if it's real or not.*

Dialogue between Dale and Travis:

Dale: *Travis, leave the boy alone. I see how you've been looking at him.*

Travis: *You don't even know, do you? You have no idea what's going on.*

Dialogue between Travis and Dale:

Travis: *You have to help us. It's the only way. It wants Ethan.*

Dale: *You're crazy. You've all gone crazy.*

Ethan:

Ethan: *It's not my fault! I didn't mean for any of this to happen!*

PAUL PROSPERO:

Ethan's family blamed him.

Whatever it was he'd accidentally let loose, his family was convinced that hurting him would solve the problem, would soothe their disturbed minds.

Whatever haunted the Carters was still here somewhere, in the wind.

Chapter 5: The Magician

The Note:

I invoke the Boneless One, the One of Voids, Destroyer of Ships and He who is feared by the Winds. Hear me!

Great Minister Focalor, I wish to make a pact with you to confound my enemies and protect my possessions! Use the Doors of Confusion to cloud their judgment! Seal the path with Falsity and Guile, and permit only those who can discern every True Interior to pass!

Aglon, Tetragram, vaycheon stimulamaton ezphares Tetragrammaton, olyaram irion esytion existion eryona onera orasim mozm messias soter Emanuel Sabaoth ADONAY, te adoro et te invoco. Amen.

THE MAGICIAN:

A magician once lived inside an old house and made potions that let him see the future. People from the village came to the magician's house and demanded he share his potions with them. "We want to see the future too," they told him. But the magician said no.

The people from the village grew angry and burned the magician's house. But the magician knew this would happen. He had already cast a spell on his potion room. The house burned, but the room did not. The people from the valley waited but the magician never came out.

Dialogue between Ethan and Chad:

Chad: *Why are you standing there? You spying?*

Ethan: *No.*

Chad: *No, huh. What the hell's wrong with you, exactly?*

Ethan: *Nothing.*

Chad: *You need to stop leaving your stupid stories around. They're freaking everyone out.*

Newspaper Article:

BLAZE REVEALS MOONSHINE OPERATION

By Daniel Josefson

BAYFIELD COUNTY – Ashland Township volunteer firefighters discovered an apparent moonshine still while battling a blaze in the woods off Old Ogden Road.

According to authorities, the still comprised a propane stove and four-gallon stainless steel pot, which was used to hold the whiskey mash. Based on the size of the still, Bayfield County Sheriff Hank Shafel believes it may be part of a small operation, though he admitted "there could be other stills" in the county.

Officers on the scene recovered a half-gallon of apple pie moonshine and one gallon of unflavored moonshine. Apple cider and cinnamon sticks were found adjacent to the

The police have been unable to determine who owns the still. Sheriff Shafel said a cigarette butt tossed at the scene likely caused the fire.

Back of Newspaper Article:

NASA LAUNCHES ATS-6 SATELLITE

By the Associated Press

CAPE CANAVERAL, Fla. – NASA launched what has been called the world's first educational satellite in Florida today, giving the United States a powerful edge in telecommunication technology.

The Applications Technology Satellite-6 will directly broadcast educational programming to several countries, including the United States, Canada, India, and Australia. NASA believes the satellite will remain in constant contact with earth for at least the next five years.

Chapter 6: The Witch's Woods

THE WITCH:

People come here for many reasons. They want to ask me questions about the future.

But I can see the future. So it is the past that interests me.

If you want to find my house, you must answer the questions I ask of you.

Do you feel victory when your words cause pain?

Do you admire thieves for their bravery or their greed?

Does death bring peace or suffering?

Do you take that which you know you will not return?

Is betrayal caused by inequality or injustice?

Does sin come from the heart or the mind?

THE STORY OF THE WITCH:

A beautiful woman sat by a river. A witch approached and told the woman she was to have a child. The woman began to cry with joy. But the joy turned to fear and she could not stop crying. Fear turned to sadness; the woman continued to cry. She cried for months, hardly sleeping, until the child was born. But the crying had aged the woman and she was no longer beautiful. When he was old enough, her son climbed the mountain to find the home of the witch. He asked her if she could make his mother beautiful again.

The witch asked the boy many questions. After hearing the answers, the witch told the boy she had lied to the mother about her child. The boy disappeared and the mother was beautiful again.

Dialogue between Missy and Ethan:

Missy: *Ethan, the point of life is not to rock the boat. Just try to get along. Stop living in your head. Do something real. That's what people respond to. Reality.*

Note from Ethan's mother:

Ethan, honey – I'm sorry I yelled at you. I want you to keep this note and read it every time I lose my temper. I don't mean it, and know I got a snake's tongue. You're my little guy, my precious bean. You just gotta pull your head out of them clouds, okay?

Chapter 7: Murder in the Graveyard

Scene with Missy, Dale, Chad, Travis, and Ethan:

1. Dale: *Our boy. Chad's putting our boy in that crypt.*

Missy: *And bricking him up. Giving him to the sleeper. Forever.*

2. Dale: *You know he's harmless. You know this is wrong.*

Missy: *Chad, finish those bricks before he wakes up.*

3. Missy: *Chad, let me see it.*

Chad: *Get the hell away from me. This is Dale's fault. He should have been helping.*

Missy: *Dale is weak. He always has been.*

Chad: *You're right. He is weak.*

4. Missy: *Chad, get off of him! He's your brother! GET OFF OF HIM!*

Dale: *Oh my god.*

5. Travis: *The hell's going on? Where's Ethan?*

Missy: *The one who sleeps must not sleep.*
Your uncle Chad is dead.
Crows…Ethan.

PS Dale: *It's not right. Ethan's our boy.*

Ethan: *Dad, I need to get into the mine.*

Dale: *The mine? My key. I don't have it.*

Ethan: *I guess I'll use the tunnel near the gate.*
Just keep Mom away from me, all right? She's sick. You're all sick.

PAUL PROSPERO:

Der Schläfer darf nicht schlafen...Ethan muss etwas gestört haben.

Was auch immer es war, es entwich, in die Luft und in das Gedächtnis seiner Familie.

Chapter 8: Murder in the Mine

PAUL PROSPERO:

What do the dead have to say? You'd be surprised by how little they know.

The dead can't explain what it means to be dead.

They walk down stairs that disappear beneath their feet, headed for some bright glade of memory they'll never reach.

Scene with Dale, Missy, and Ethan:

1. **Dale:** *Honey, he probably ran! Why wouldn't he? Why would he be here? Shit. That was probably a raccoon!*

   Missy: *No. No, I don't think it was.*

2. **Dale:** *He's just a kid! He didn't "disturb" anything! He just found a room in an old house! That's it!*

   Missy: *Our boy is the price. I'm going up there. The sleeper must not sleep.*

3. **Missy:** *He can't get away. It's the sleeper's time to awake!*

   Dale: *Missy, listen to yourself!*

   Missy: *No, I see clearly. The sleeper breathes inside me.*

   Dale: *You're sick. We all are.*

   Missy: *Dale, what are you doing?*

4. **Missy:** *Dale! Dale, what is this?*

   Dale: *I'm…fixing something.*

5. **Missy:** *Dale! You miserable coward! Let me out! The sleeper demands to rise!*
   The sleeper must wake up! The sleeper must wake up! The sleeper must…

PS **Ethan:** *Where's Mom? I thought I heard her voice.*

Dale: *She's…still looking for you. You need to leave. Go, through thee.*

Ethan: *Through that water? It kind of looks like it's boiling.*

Dale: *No, no, it's just a simple chemical reaction. It's not actually boiling.*

Travis: *(In the distance) Mom! Mom, where are you?!*

Dale: *I'll deal with your brother. Just go. Now!*

PAUL PROSPERO:

He didn't kill his wife. She was no longer who she once was. Neither was he.

Something was using all this pain and death.

Something was becoming stronger.

Chapter 9: The Old God

(Warning: This scene contains jump scares.)

The Warning:

If this warning stands, walk no further.

If this warning stands, our ritual failed.

If this warning stands, the sea-thing gate remains sealed.

The Poem:

He is not dead but eternal lie.

The god of strange aeons cannot die.

We open the gate, the gate of old.

Its guardian eyes have long grown cold.

The name of our god: our truth, our key.

He is that which is, which should not be.

"CURSE OF THE SEA MONSTER":

The Enochian Necronomicon! The iron-ore miners had finally found it! But not all of them wanted to perform its ritual and disturb summon the sea-thing Gnaiih. One miner realized the ritual would unleash Gnaiih's flood upon this world. And so the miner had no choice but to stab the others with blades shards of magick Eltdown. Gnaiih, in response, cursed the miner, wo now wanders the mine, doomed to prevent others from summoning the sea-thing and flooding the world forever.

Dialogue between Dale and Ethan:

Dale: *Ethan, I told you to stay out! Goddammit – look, it's dangerous in here.*
I'll read your story later! Okay? And please don't tell your mother I'm here, all right?
Okay, now you go. Get back home!

Letter to Dale:

Re: REQUEST FOR CLARIFICATION

Dear Mr. Carter,

The United States Patent and Trademark Office has received your January 27, 1973, letter requesting "further explanation" as to why your recently submitted patent 527F2d was rejected by this office. As we explained in our previous letter, the patent was rejected for infringing upon a previously existing patent.

We have on record from you more than four dozen requested patents submitted in the last sixteen months. None has been successful, and all have been met with challenges by you, Mr. Carter, we would like to consider this matter, and future matters, administratively closed.

Sincerely,

James Maki, Administrative Director

Note from Missy to Dale:

Dale:

GET YOUR SHIT OUT OF OUR BASEMENT. BRING IT TO THE GODDAMN DUMP. I am so sick of stepping over your lifetime of failure on my way to the washing machine. I'm not kidding. Either you move it or I burn it.

Chapter 10: The Dam

PAUL PROSPERO:

I could feel two kinds of darkness here in Red Creek Valley.

The first you walked into, and, with any luck, walked out of.

But the other darkness was deeper, stickier, unknowable. And it wanted me to leave.

Scene with Travis and Dale:

1. Travis: *Where's my mother? Why are you standing in the sleeper's way?*

Dale: *She had an accident. Travis, put down the axe.*

2. Travis: *An accident?*

Dale: *I didn't want her to get hurt. We're all so …so sick …you know? Since Ethan found that room.*

3. Travis: *Where's Ethan? Goddammit. Talk to me!*

Dale: *Okay, okay! He wants to burn Vandegriff's room.*
Look, Travis, just – just leave me alone!

4. Travis: *The sleeper chooses vessels, you know that?*
To enact his wishes. He chose Mom. He chose me.

5. Dale: *Son, I don't want to hurt you!*

Travis: *You think scissors are gonna save you?*

Dale: *Yes.*

Travis: *It didn't have to be this way. You could have helped the sleeper. Helped us.*
But Mom's right. You're a coward. And you'll be meeting Ethan again soon.

PS Travis: *You disturbed it. Not me.*

Ethan: *Travis, we can get rid of it! I know exactly what we're up against! Don't listen to what's in your head.*

PAUL PROSPERO:

This…sleeper was feeding on them. Their hate. Their distrust.

Ethan's father figured suicide wouldn't feed it.

But it did. I could feel it sitting somewhere out there, fat as a bullfrog, digesting.

Chapter 11: The Vandegriff House

PAUL PROSPERO:

Ethan was close. I could feel him, a pinprick of light in the darkness.

He would know me. He would know why I'd come.

1st Burned Text:

I tried to brick her up in the wall, but she fought me. In the end, I couldn't do it. Not to my wife. Neither she nor the Sleeper is pleased. Now I must decide whom I fear more.

2nd Burned Text:

I am not myself. Have not been myself. Voices again today. Same as yesterday. This is most vexsome.

3rd Burned Text:

What I must do is clear to me now. The Sleeper resides in a prison of death, and pain is the key.

Scene with Ethan and Ed:

1. **Ed:** *Ethan, I fought it off. It's okay.*

   Ethan: *Grandpa, get away from me!*

   Ed: *Your grandmother Gayle is protecting me from it. Ethan, I can help you.*

2. **Ethan:** *I found Vandegriff's diary. He said for the sleeper to wake up, someone has to suffer.*
   Look!
   When I found that room I didn't wake him up. He's trying to wake up now!
   Vandegriff kept his victims alive, he made them suffer! That's what the sleeper wants!

3. **Ed:** *We need to get in that room.*

4. **Ethan:** *I can squeeze through.*
   Grandpa, no!

5. **Ed:** *Gayle, it has to be this way. The sleeper must not wake.*
Burning the room won't matter, Ethan. The sleeper's inside us now.

Ethan: *Grandpa, get back!*

Ed: *We all have to die. Even you. Even me.*

Chapter 12: The End

Dialogue between Paul Prospero and Ethan:

Prospero: *Ethan, wake up. Well, kid. You stopped it. It was horrible, but you stopped it.*

Ethan: *Paul Prospero. Are you – are you really here?*

Prospero: *I'm sorry, Ethan. I was late. Too late.*

Ethan: *You were. You were too late.*

New Scene:

PAUL PROSPERO:

Here. Again. I knew this story. And it was Ethan's as much as it was mine.

And it wasn't finished. Not yet.

Scene with the whole family:

Travis: *Christ, Ethan! You're in here again? You missed dinner! Mom and Dad are pissed.*
They've been looking all over the place!

Ethan: *Get out of here, Travis! Leave me alone.*

Travis: *Hey, Ma, he's in here!*

Dale: *Honey, be careful with that lamp.*

Chad: *Dale, what the hell's wrong with your kid! Paintin' on walls, writin' his stories. I mean what the fuck.*

Missy: *Ethan, for God's sake. You missed dinner.*

Ethan: *I'm sorry. I've been working on a story all day. How long have I been out here?*

Travis: *'The Adventure of Paul Prospero, Supernatural Detective.' Where do you get this stuff?*

Dale: *Pop, would you get Travis out of here, please?*

Chad: *He draws pictures on walls! What the hell is that?*

Dale: *Chad, shut up!*

Chad: *You got yourself a faggot for a son, Dale.*

Ed: *Travis, let's go, come on.*

Travis: *Faggot. Ethan you're a fucking faggot!*

Missy: *Travis, stop it!*
Oh!

Travis: *Shit. Shit!*

Missy: *Everyone, go, get out!*

Dale: *Ethan, get out! The smoke's toxic!*

Travis: *Oh Jesus! Oh God!*

Chad: *What do we do? What do we do?*

Ed: *We can't stay here!*

Dialogue between Ethan and Paul Prospero:

Ethan: *I wrote about you. But I don't know if I created you.*

Prospero: *You made me real.*

Ethan: *I can't go yet. I have to finish my story about you. I wrote stories about everyone.*

Prospero: *I know you did. But my story's done. And it's a fine story.*

Ethan: *I can let go?*

Prospero: *You can let go.*

Ethan: *What happens then?*

Prospero: *Another story, kid. What else?*

Appendix E:
Pre-Study Questionnaire

Qualtrics Link:
https://utexas.qualtrics.com/jfe/form/SV_55Z3mxc2WOmqZb7

Name: _____ Date:

_____

Age: _____ Sex: _____ Native Language(s):

_____

Other language(s): _____ Major(s):
_____

1. Please check instructional experiences you have had learning German:
   - ☐ UT German courses: _____
   - ☐ German high school courses:
     Years of study: _____
     Years passed: _____
   - ☐ Other German language courses / programs:
     _____

2. Please check all experiences in which you have had contact with the German language:
   - ☐ Grew up in a German-speaking family
   - ☐ Lived in a German-speaking country
     For how long?: _____
   - ☐ Traveled to a German-speaking country
     Which one(s)?: _____
     How long were you there?: _____
   - ☐ Had contact with German speakers
     In what capacity?:
     _____

3. Have you studied any other languages? If so, which ones?

4. Why are you studying German? What interests you most about learning German?

5. What do you expect from a language class? What do you consider the most valuable feature of a language course?

6. Have you ever sought out contact with German outside of an instructional context?

- ☐ Yes, for entertainment purposes
  In what form?:
  _____
- ☐ Yes, for learning purposes
  In what form?:
  _____
- ☐ No

7. Have you ever played any form of digital games (e.g., Nintendo, games for cellphones, computer games, etc.)?

- ☐ Yes
  Which platforms?:
  _____
  Which games?:
  _____
- ☐ Never

8. One a scale from 1-5 (with 1 being negative and 5 being positive), how much do you enjoy playing video games?

1 2 3 4 5

Please explain your answer:

9. On a scale from 1-5 (with 1 being not experienced and 5 being very experienced), how experienced of a gamer do you consider yourself to be?

1 2 3 4 5

10. When was the last time you played a video game?

- ☐ Never
- ☐ This week
- ☐ This month
- ☐ This year
- ☐ As a child
- ☐ Other: _____

11. If you play video games, how many hours per week do you spend playing?

- ☐ 0-2 hours
- ☐ 2-5 hours
- ☐ 5-10 hours
- ☐ more than 10 hours

12. What was the last game video game you played?

13. What types of video games do you enjoy playing the most?

14. In your opinion, what makes a "good" video game?

15. What do you associate with playing video games?

16. Have you ever played a video game in another language before this?

Appendix F:
Post-Study Questionnaire

Qualtrics Link:
https://utexas.qualtrics.com/jfe/form/SV_55Z3mxc2WOmqZb7

Name: _____ Date:

_____

1. On a scale from 1-5 (with 1 being negative and 5 being positive), rate your experience playing the game.

   1 2 3 4 5

   Please explain your rating:

2. Playing a digital game in German…(check all that apply)
   - ☐ improved my language skills.
   - ☐ had no effect on my language skills.
   - ☐ negatively affected my language skills.
   - ☐ Other

   Please explain your answer:

3. Do you think playing digital games in German is a legitimate way to improve your language skills? Why or why not?

4. Would you play other digital games in German?
   - ☐ Yes, for fun
   - ☐ Yes, to learn the language
   - ☐ No

Please explain your answer:

5. If you were to play *The Vanishing of Ethan Carter* or a similar digital game again, would you prefer to play alone or with another person?

- ☐ Alone
- ☐ With another person

Please explain your answer:

6. Did you use the walkthrough videos at any point? If so, when and why?

7. Were the walkthrough and tutorial videos helpful?

- ☐ Yes
- ☐ No

If not, how could they be improved?

8. Any other comments:

Appendix G:
Recall Protocols

1. What happened in the story during today's gameplay session? Use examples from the game.
2. What do you think will happen next in the story? Use examples from the game.
3. What did you find most difficult today?
4. What things were you paying attention to? What stood out to you as significant?
5. How did you feel during gameplay?

Appendix H:
Focus Group Questions

As a semi-structured interview, these questions are subject to change depending on participants' answers. Any follow-up questions will be related to the questions listed below.

1. How would you evaluate your experience playing the game? Positive or negative?

   And why?

2. What was the game about?

3. What did you like most about your experience?

4. What did you like least about your experience?

5. What do you think you learned by playing the game?

6. What parts of the game did you find particularly difficult?

7. Do you believe your German improved as a result of playing the game in

   German?

   a. In what ways did you notice improvement?

   b. What prevented potential improvement?

8. How do you think the study could be improved?

Appendix I:
Transcription Conventions

Based in part on the Jeffersonian transcription system (Jefferson, 1983, 1985; Sacks, Schegloff, & Jefferson, 1974), with some additional conventions taken from GAT and GAT 2 (Selting, 1998; Selting et al., 2009).

[	start of overlap (simultaneous talk by two/more speakers)
]	end of overlap
=	latching between turns (i.e. two utterance by different speaker follow each other without an intervening beat of silence) or continuation of speaker's turn across transcript lines
(0.5)	silence; length of silence timed relative to the delivery of the surrounding talk
WORD	higher volume relative to the surrounding talk
(word)	transcriber's uncertain hearing
*	marks location of or the beginning and end of embodied actions

Appendix J:
Group Gameplay Transcripts

Group B
Course: 612
Gameplay Session: 4th
Date of recording: 3/21/2017
Zone: 1 / "Fallen"
Time Stamp: 00:17:17 – 00:28:20
Total Time: 00:11:03

```
001       ((**bridge makes noise**))
002  P:   Also, it kind of sounds like a cow. **laughs**
003  Co:  **laughs**
004       (4.0)
005  P:   Alright.
006       (4.0)
007  P:   I'm finding all these deadly traps again.
008       (19.0)
009  P:   Not gonna lie, that made me jump.
010       (11.5)
011  P:   Great. And two.
012       (3.5)
013  Co:  And the other two are on the other side.
014       (5.0)
015  P:   Over here some place.
016  Co:  Yeah.
017       (3.0)
018  P:   There's one. So glad we don't have to take damage in this game.
019       **laughs**
020       (1.5) **Co smiles**
021  P:   We'll reserve that for the other games.
022       (12.0)
023  P:   [There should be one more just as obvious as those were.]
024  Co:  [                   ((inaudible))                       ]
025       (2.0)
026  Co:  Um...
027  P:   Yeah, cause they're connecting. Grr.
028       (6.5)
029  P:   Traps in the woods. Love it. Classic.
030       (32.0)
031  P:   I wonder if these traps were set for our character here.
032  Co:  Oh, that's it. Okay.
033  P:   Finally. **laughs**
034       (6.0)
035  P:   Oh!
036  Co:  What?!
037  P:   [ Oh! ]
038  Co:  [Wait,] what?! **smiles**
039  P:   [   Wonder]ful. This looks like a worksite for me. **laughs**
040  Co:  [Is that… ]
041  Co:  Okay...that's...
042       (1.5)
043  P:   Phenomenal.
044  Co:  **laughs** Alright.
045  P:   ((**Picks up text**)) I'm too excited. **laughs**
046  Co:  **laughs**
```

(1:16.0)
((**Co looks at transcript, then at screen; both read from screen**))
((**Text open for 1:22.0**))
Co: ‘Kay.
P: Okay.
(27.5)
P: Saft. Natürlich. ((**Looking at bottles on ground**))
Co: Mhm.
(36.0)
((**Picks up article; open for 1:18.0; both read from screen**))
P: **humming**
(45.0)
P: Yeah.
Co: Mmm.
P: Yeah, this would have been really nice to have earlier. **laughs**
((**P moves mouse in tight circles around fire pit**))
(3.0)
Co: Yeah.
P: Cigarettes.
(6.0)
P: So, this...this...was just a story written by Ethan, right?
Co: I think so.
(3.0)
Co: [Um...and there was-
P: [And I guess that the juice was alcohol.
(2.0)
Co: There was fire in the Carter’s house. Was it?
P: Right, which is what we did over in chapter four.
Co: Yeah.
P: We went through there.
Co: Yeah.
(8.5) ((**Co looking at transcripts**))
P: Well, that’s very- Is that the end of the chapter?
((**looks at transcripts**))
Co: Um, did we ever read this one? ((**points to transcripts**)) We-
Co: [This one was the] article we have.[We haven’t found this one.]
P: [Oh no we haven’t] [Yeah, we haven’t done that yet.]
(1.0)
Co: Um.
P: I’m guessing that’s gonna be=
Co: =It looks like another newspaper article, so...
P: See...do you think it’s over here somewhere?
((**goes back to firepit**))
Co: Maybe.
(11.0)
Co: I think that...did the second one have a back side?
(3.0)
Co: Or is it just...
(3.0) ((**P picks up article again**))
P: No, I think this shows us everything.
Co: Yeah. [I guess.]
P: Every- [every] bit of text that’s on there...would be on that other screen.
Co: Hm.
(4.0) ((**P picks up short story**))
P: Oh, it’s written on notebook paper. Of course.
(3.0)
P: And the uh...Saft. ((**looking at bottles on the ground**))
Co: Okay.
(1.0)
P: Nice.
(11.5)

P: How about this direction?
Co: Yeah.
P: Okay.
(4.0)
P: See if we spot anything.
(7.0)
P: Or a piece of paper or something trying to kill us again.
Either way works.
Co: Mhm.
(13.0)
P: Just leaves. Thought it was blood.
(5.0)
P: Same thing.
(2.5)
P: **sighs**
(11.0)
P: Well, that's it.
(2.0)
Co: Okay.=
P: =I feel like if there's going to be any other...
(5.0)
P: Any other newspaper articles it's gonna be in that same spot.
Co: Yeah.
(47.0) ((**P navigates back to fire pit**))
P: Just lots of empty...empty booze bottles.
(15.0)
P: Does it look like that last part's really important
((**looks at transcripts**))
Co: Um...it's just another article. ((**looking down at transcript**))
(1.5)
P: Hm.
(4.5)
Co: Yeah.
(13.5) ((**P moves toward zone exit**))
P: I guess that's just more information on...
Co: Yeah.
P: What's to come.

Group J
Course: 328
Gameplay Session: 1st
Date of recording: 2/17/2017
Zone: 1 / "Fallen"
Time Stamp: 00:50:14 – 00:57:14
Total Time: 00:07:00

```
001         (10.0)
002   P:    Mmkay, here we go.
003   Co:   It's a fresh start [((inaudible))]
004   P:                      [   Yeah      ]
005   Co:   Over here. ((**points with pen**))
006   P:    **clears throat**
007         (4.5)
008   Co:   It's around here.
009         (14.0)
010   Co:   Back there.
011         (3.5)
012   P:    There it is.=
013   Co:   =Okay.
014         (9.5)
015   Co:   Then over to your right.
016         (5.0)
017   Co:   Okay
018         (8.0) ((**Co looks at WTV**))
019   P:    Get us back on track?
020   Co:   Yeah, but there's two more.
021         (8.5) ((P stops to watch WTV**))
022   Co:   Back to the tracks. ((**points with left hand at screen**))
023         (4.0)
024   Co:   And keep going down 'em.
025         (1.0)
026   Co:   It's past the rocks.
027   P:    These rocks?
028   Co:   Those...up there. ((**points with left hand again**))
029   Co:   Oh, yeah, got it.
030         (3.0) ((**P wipes face with hand**))
031   Co:   ((inaudible))
032         (6.5)
033   P:    Okay.
034         (3.0)
035   Co:   Um, go to that...tree.
036         (1.0)
037   Co:   It's hidden back there. I think.
038         (4.0) ((**Co looks at WTV**))
039   P:    Oh, in this [ ... ] valley?
040   Co:               [Yeah.]
041   P:    Oh wait.
042         (1.0)
043   Co:   ((inaudible))
044         (1.0) ((**P glances back and forth from WTV to screen))
045   Co:   No, you're good.
046         (1.0) ((**P glances back and forth from WTV to screen))
047   Co:   I think.
048   Co:   Is that where you saw him?
049   P:    Yeah.
050   Co:   Okay, it's...
051   P:    He has one more than us.
```

052 Co: I think it's ((inaudible)).
053 P: No...do we?
054 (7.0)
055 P: Ah yeah, we do.
056 (3.5)
057 Co: I think that [((inaudible))] back to the track.
058 P: [Yeah. Yeah.]
059 (4.0) ((**Both look at WTV**))
060 Co: Unless you went farther back?
061 P: Ohhh
062 (1.0)
063 P: Sweet.
064 (2.0)
065 Co: I guess you were. Back to the right.
066 (3.0)
067 Co: To the right again.
068 (3.0)
069 P: There we go.
070 (10.0) ((**Both lean back after finding last trap**))
071 Co: **laughs** So now what?
072 P: ((inaudible)) He was all trapped, so...
073 Co: ((inaudible))
074 Co: Uh...just [in case] ((**Co looks at WTV**)) Let's give this a check.
075 P: [Yeah.]
076 (2.0)
077 Co: Ah, no it's not all.
078 (4.0)
079 P: Is it over there?
080 Co: And to your left.=
081 P: =Yeah.
082 (1.0)
083 Co: It's by the tree.
084 P: Yup.
085 Co: Over there. ((**points with hand**))
086 (5.0)
087 Co: There it is.
088 P: Saft...yeah.
089 (21.0)
090 ((**P reads from screen; Co reads from transcript; open for
091 1:06.0**))
092 Co: ((inaudible)) ((**Co looks down at transcript**))
093 (11.0)
094 P: **laughs**
095 (25.0)
096 P: Understand?
097 ((**Co glances at transcript; Co reads from transcript**))
098 Co: Think so.
099 P: Okay.
100 (5.0) ((**sets down text in game**))
101 Co: ((inaudible)) ((**Co looking at transcripts**))There we go. Found
102 Ed.
103 P: Yeah.
104 (3.0)
105 Co: ((inaudible))
106 (3.0)
107 P: Later ((**reading später from screen**))
108 ((**both read dialogue from screen**))
109 (8.0)
110 Co: I guess that's his juice.
111 ((** looking at bottles next to short story**))
112 (3.0)
113 P: Probably water.

Co: **laughs**
(4.5) ((**Co looks at WTV**))
P: Oh ((**P sees other text in fire pit**))
(7.0) ((**Text open for 1:14.0; they don't look at other side**))
Co: ((inaudible)) ((**Co looking at transcript**))
P: ((**reading under his breath from screen**))
(3.0) ((**Co reads from transcript; P reads from screen**))
Co: We got everything then.
P: Yeah. **laughs**
P: **laughs** So then it says ((inaudible)) found damaged in a fire.
((**P translating article from screen under breath**))
(43.0)
((**Co watches WTV; P clicks out of article, clicks in for English**))
Co: ((inaudible)) ((**Co looking down at WTV**))
P: Yup. ((**P moves avatar toward Zone 2**))
(12.0)
Co: ((inaudible)) ((**Co looking down at WTV**))
P: Do we want to watch the second one?

Group L
Course: 328
Gameplay Session: 5th
Date of recording: 3/21/2017
Zone: 1 / "Fallen"
Time Stamp: 00:39:42 – 00:49:19
Total Time: 00:09:37

001 Co: Apparently we didn't solve that like we thought we did.
002 (6.0) ((**Co watching WTV**))
003 Co: So, we found the tree spiky trap.
004 (3.0) ((**Co watching WTV**))
005 P: Well, we didn't solve that murder though.
006 Co: Oh, maybe that's what it's referring to. That murder that
007 we never solved.
008 ((**Co looks back at screen**))
009 P: So, yeah.
010 Co: So, maybe that's what it is.
011 (2.0)
012 Co: 'Cause that was that one, right? ((**looks at transcript**))
013 P: Mhm, I think so.=
014 Co: =*Mord auf dem Bahngleis*.
015 (2.0)
016 Co: Woah.
017 (3.0)
018 Co: And then there was that other trap on the other side, which
019 was like a...You could fall in it.
020 (1.5)
021 Co: So, I'm wondering if that murder was in chapter two. Cause it's-
022 Chapter two is called *Mord auf dem Bahngleis.* ((**reading from
023 transcript**))
024
025 (1.0)
026 P: But, didn't we find the dead body in the- When we first started
027 playing?
028 Co: Yeah, but I guess technically, uh- Maybe that might go in- 'Cause
029 right now the first chapter is just about traps. *Traps in the woods.*
030 While the other one is called death on the Bahngleis. Which I want
031 to think it's like railroad tracks.
032 ((**reading from transcript, then looks back at screen**))
033 (3.0)
034 P: So...
035 Co: I wonder who that is now? I'm like, I wonder who that is now?
036 (3.0) ((**Co watching WTV**))
037 Co: Trying to see like, what we need to look at in here.
038 (6.0)
039 Co: Oh, look. There's this trap.
040 (3.5) ((**P looks at WTV**))
041 Co: It creates more of that picture.
042 P: Yeah, well we found two of them.
043 Co: This is the third one.
044 (2.0)
045 P: Well, now we need to find all of them again.
046 (1.0)
047 Co: Woah. Yeah, that's the second one.
048 (2.0) ((**Co watching WTV**))
049 Co: Let me try to-
050 (11.0)
051 Co: And you just found that bear trap, right?

P: No, I haven't found that yet.
Co: Oh, the bear trap isn't that far from that little fall off trap. Or the trap that you just found.
P: Oh, on the other side? ((**Co watching WTV**))
Co: Yeah. So if you- Let me, uh, just pause that there.
(2.5)
Co: The trap where you could have fallen in. That one.
Co: And then, from there, you go off to the right of it. You cross this rocky path and then there- Yeah, just beyond there is the bear trap up ahead. There it is.
(1.5)
P: Where?
Co: Oh, keep walking a little bit.
P: **laughs**
(1.0)
Co: That's weird. It was like right there. A stick got caught.
((**Co looking at screen**))
(2.5)
Co: There it is. **laughs** I was like, there it is.
Co: Okay, so then like it creates more of that- And then...once you find the bear trap from there...
(4.5) ((**Co glances back and forth from WTV to screen**))
P: You need one more.
Co: Yeah. There's a fourth trap that finishes that image. You go off straight from the trap, up like, you know, headed north. Uh, not in the tunnel though.
(3.0)
Co: So, you see this area. Where it had debris, and then there's rest of the train tracks. ((**pointing to WTV; P looks at video**))
(1.5)
Co: So [leading to that bridge.]
P: [Oh, so we're going back.]
Co: Yeah.
(3.5)
Co: Oh, and there's a- There's a trap just off to the right of that.
(3.0)
Co: So, if you look here.
(1.0) ((**Both look at WTV**))
Co: Uh, where that bridge is, you go [off] to the right.
P: [Oh.]
Co: And then there's the fourth trap over there. So, we didn't find like those two traps.
(1.5)
Co: Actually.
(1.0)
P: Over here?
Co: Yeah, it's a little off to the right.
((** looks between WTV and screen**))
(2.5)
Co: Oh, let me uh, show where that was again. Okay, so, here's that and then there's the bridge and then they veer off to the right and then they veer off to the right again. ((**Both look at WTV**))
(5.0) ((**Both looking at WTV**))
Co: Come on trap! Hurry up and pop up.
(3.0)
Co: Where you see like these trees.
P: Are they on the little path?
Co: Yeah.
(2.5)
Co: And there are like those- Yeah, those trees. You just keep going straight.
(2.0)

Co: Yeah, and it should be off to the right.
((**Co points with finger**))
(3.5)
Co: Woah, let me rewind this a bit. You see this tree right here? So, like, this was where you came in through. ((**Both look at WTV**))
P: Mhm.
Co: And then if you look here...
(1.5)
Co: You're gonna move to the right of that tree right there. And then it just like, springs up at you.
(5.0)
Co: There it is. I don't know why it like surprises me each time.
(2.5)
Co: I wonder if that means that's it?
P: Oh, we need one more.
Co: Dang it, there's one more trap! Let's see where this last one is. Yeah, which I guess I never realized, like, there were so many traps we had to find.
(4.0) ((**Co watches WTV**))
Co: Okay, so it looks like this one's going back on the railroad tracks. Oh, this one was- He just stumbled upon it. Um...
(1.0)
Co: So, from the (1.0) From the trap... ((**Both watching WTV**))
(3.5)
Co: You find yourself going back to the forest. It doesn't look like it shows that first trap though, so...
(4.0)
Co: And it's like along the railroad.
P: Got it.
Co: Okay, cool. That's really hard to describe when it's in the woods.
((**Co looks back at screen from WTV**))
(5.0)
Co: **sighs**
(5.5)
Co: Is that you moving? Oh, [there's] a letter next to a tree.
P: [Yeah.]
((**Co looks at WTV**))
(2.0)
P: There's a what? ((**Looks at WTV**))
Co: A letter. That's like, leaning on the trunk of a tree.
(3.0)
Co: Should be...let's see. Let me rewind this.
P: Ooooh, those are skulls!
Co: Woah. There it is. There's the letter.
(2.0)
Co: And it says *Saft*. Doesn't that mean, like, drink?
P: Juice.
Co: Juice. ((**reads Saft out loud from transcript)
((text on screen 54.0**))
Co: ((**reads dialogue between Ethan and Ed with inflected voice**))
Co: Oh, that was his grandpa.
P: Mhm.
(1.5)
Co: And then supposedly there's suppose to be a news article.
P: Yeah, I just found it.
Co: Oh, cool. *One dead in house fire.* ((**reads English on screen**))
((**Text on screen 1:00.0 + 29.0))
((Co reads under breath from transcript**))
(1.0)
Co: Ohhh, this is interesting. You find all of this out in the beginning. **laughs**
(1.5)

Co: We just never knew.
(4.0)
Co: *Gayle Carter*. So, I guess Gayle was maybe uh...his grandfather's wife.
(12.5)
Co: **reading under breath**
(6.0)
P: So, it's just talking about how she- how they died?
Co: Yeah, like how I guess they were trapped in the house. And there should be a back side to that paper too. Where it goes into more detail about it.
(3.5)
Co: **reading text**
(14.5)
Co: **reading under breath**
P: So, we still need to find the Vandegriff house. **laughs**
(1.0)
Co: I know. That kind of- Well, this finishes chapter one. 'Cause that's all there is for chapter one.
(1.0)
Co: So, it kind of gave you a hint in the beginning of what you were to expect like way later- But I feel like Ethan- Like, I would not have know that. You know what I mean? To look for all those traps.
P: Yeah.
Co: And so then it's the dead body that we would have to find...or solve. Um..
((**Co looks at transcript**))

Group N
Course: Mix
Gameplay Session: 3rd
Date of recording: 3/3/2017
Zone: 1 / “Fallen”
Time Stamp:00: 25:04 – 00:34:40
Total Time: 00:09:36

```
001       (2.5)
002  P:   Is this where the beginning was?
003  Co:  Yeah, this is where the beginning was, but I don’t think we went
004       down here.
005       (2.5)
006  P:   ((inaudible))
007       (3.0)
008  Co:  Okay, yeah.
009  Co:  Yeah, we started back there.
010  P:   Isn’t this where we started?
011  Co:  Well, let’s just keep looking around and let’s try to see if there’s
012       like a whole path.
013  P:   Yeah. ((inaudible))
014  P:   Oh fuck!
015  Co:  Oh! **laughs**
016  P:   Was that the jump scare?
017  Co:  No, I don’t think so. Fühlen.
018       (2.5)
019  Co:  Okay, so I think that uh...
020  P:   Okay...so this is killer.
021  Co:  **laughs**
022       (5.0)
023  P:   ((inaudible))
024       (5.0)
025  P:   The hell?! Wait. That wouldn’t kill anyway. That bounce from there
026       to there. ((**P looks closely at trap**))
027       (4.0)
028  Co:  Guess it didn’t kill us.
029  P:   WHAT THE HELL?!
030       (2.0)
031  P:   Are these the jump scares?
032  Co:  Yea- I don’t think these are the jump scares but like...
033       (4.0)
034  P:   Ah, no. ((**walking into the dark tunnel**))
035       (3.5)
036  Co:  Well, let’s go back out there, just before we go into the cave. And
037       then...
038  P:   Maybe go back.
039  Co:  I feel like there’s more like stuff on this side. Let’s just make.
040       sure
041       (8.0)
042  Co:  There it is.
043  P:   What’s it reveal?
044       (6.5)
045  Co:  One more.
046       (8.0)
047  Co:  **laughs** I feel like that should have just killed us. Actually,
048       no, now we’re missing one more.
049       (6.5)
050  P:   No matter how ready I am, they always scare me.
051       (13.0)
```

P: Hang on.
(33.0) ((**P searching area, but not systematically**))
Co: Hm.
P: Come on.
(2.0)
P: Maybe that's it. Two on each side.
Co: Yeah, maybe.
(10.0) ((**P enters dark tunnel**))
Co: This could be the jump scare in the mines.
(2.5)
P: It's not a mine.
Co: Yeah, you're right.
P: Yeah, I don't know.
(5.0)
P: It'll scare us if we're not looking at it.
(18.0) ((**P looks towards door in room**))
P: What?
Co: It's just the same? ((inaudible))
(4.5)
P: It is a little bit different, right?
Co: Yeah.
P: There's a little bit of space here that wasn't there.
(2.0)
P: What the fu-?
(12.5)
P: What could this be? I feel like that middle part is super important.
(11.0)
P: **singing under breath**
(16.0)
Co: Okay! There it is.
(1.5)
P: Spooky.
(6.0)
P: We win.
Co: Mhm.
((**P picks up text**))
(54.0) ((**Both read silently from screen; text open for 53.0**))
Co: Found the bones of the ((inaudible))
(11.0) ((**P sets text down**))
P: **reading under breath**
(9.0)
P: He's been drinking. ((**zooms in on empty bottles**))
(11.5) ((**P picks up article**))
P: **reading under breath**
(6.0) ((**Text open for 57.0**))
P: Am Unfallort in Bereitschaft.
(7.5)
P: **reading under breath**
(11.0)
P: Beschädigt.
(2.0)
Co: Yeah.
P: Hey, this looks like...
(3.0)
P: I guess it could have started here. ((**looking at fire pit**))
Co: Maybe.
(6.0)
P: **singing under breath**
(11.0)
P: **speaks under breath**
(12.0)
P: Should we go back through?

Co: Mmmmm...maybe.
(11.5) ((**P goes back through tunnel**))
P: **singing under breath**
(29.0) ((**Co taps on desk to the sound of avatar's foot falls**))
P: I wonder how they're related?
Co: Hm.
(1.0)
P: To the murders that we know so far.
(1.5)
P: Want to try this way?
Co: Sure.
(2.0)
P: **singing under breath**
Co: This is ((inaudible))
(6.0)
P: **singing under breath**
(1.5)
P: If we went there before, I wonder if it would...

Appendix K:
Gameplay Instructions

Debriefing

Controls:

W, A, S, D	Moves body
Mouse	Moves head / looks
Left click	Interact
Right click	Zoom
Ctrl	Crouch
Shift	Sprint

Essential Information:

- You are a detective looking for Ethan Carter.
- You CANNOT be injured or die.
- Nothing is chasing you.
- When you find a text in the game, press the [SPACE] bar to bring up the German text. Press [SPACE] again to advance the screen.
- The jump scare appears in the mine.
- If you get stuck, consult the transcripts and/or walkthrough videos to guide you.
- Explore, explore, explore!
- Talk with your partner!

Clues about Gameplay

- See reverse side.

Gameplay Clues:

- *Berühren* = to touch (i.e., left click)
- *Halten* = to hold (i.e., the mouse button)
- If a word appears, multiplies, and they float around the screen, you must try to line them up then click and hold. A window will open, showing you a clue in a different location. The direction in which you are looking when the window opens points in the direction of where the clue is located.
- You must find and restore all clues to their original location in order to solve a murder.

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